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TOWNSEND

TOWN CENTRE PLANNING STUDY





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TOWNSEND centre planning study

CA 20N

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A study prepared for the
TOWNSEND COMMUNITY DEVELOPMENT PROGRAM
Ministry of Housing



By
Llewelyn-Davies Weeks Canada Ltd.

TOWNSEND

TOWN CENTRE PLANNING STUDY

Preliminary
Urban Design
of the
Town Centre

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Preface

The town centre is being planned as the heart of the new region as well as the new community. It should contain most of the unique and one-of-a-kind facilities in the region and, therefore, provide the setting for the greatest diversity of goods, services, people and events in the area.

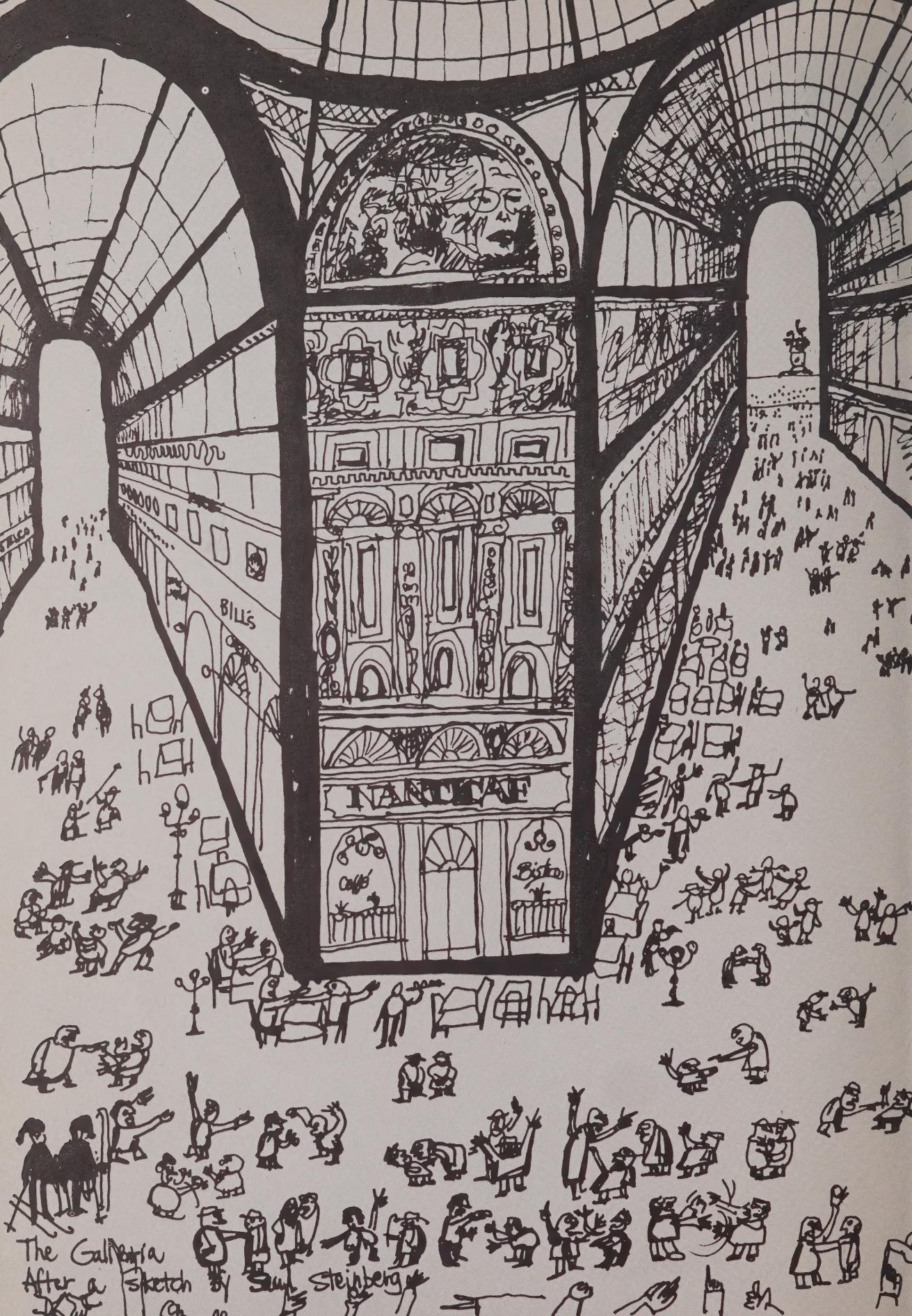
In fulfilling this role, the centre should contain all the functions traditionally associated with a major "downtown" area, including cultural, social, recreational, entertainment as well as shopping and business facilities. With the associated build-up of service employment, it should be a major place of work in the region. The variety of activities also should make it an interesting and unique place to live.

The development of such a centre is intended to serve a number of purposes:

- It should assist considerably in creating an early and strong sense of community identity.
- The concentration of activity should also create the best opportunity for establishing comprehensive comparison shopping in the region.
- This in turn should serve to attract a greater diversity of employment and the provision of other social and non-commercial facilities.

Conceptual plans are presented in this study, together with a first look at the centre's design potential and development process. Other studies in the Townsend planning program have focused on defining the role of the centre, selecting its location and finally, determining its possible size and land uses.

This is a preliminary study only, to test the flexibility and potential of designing the town centre in relation to the rest of the town. Before implementation, extensive detailed planning work will be required. We recommend that this report be used as a basis for detailed study once the implementation mechanism is formed.



The Galleria
After a Sketch

Steinberg

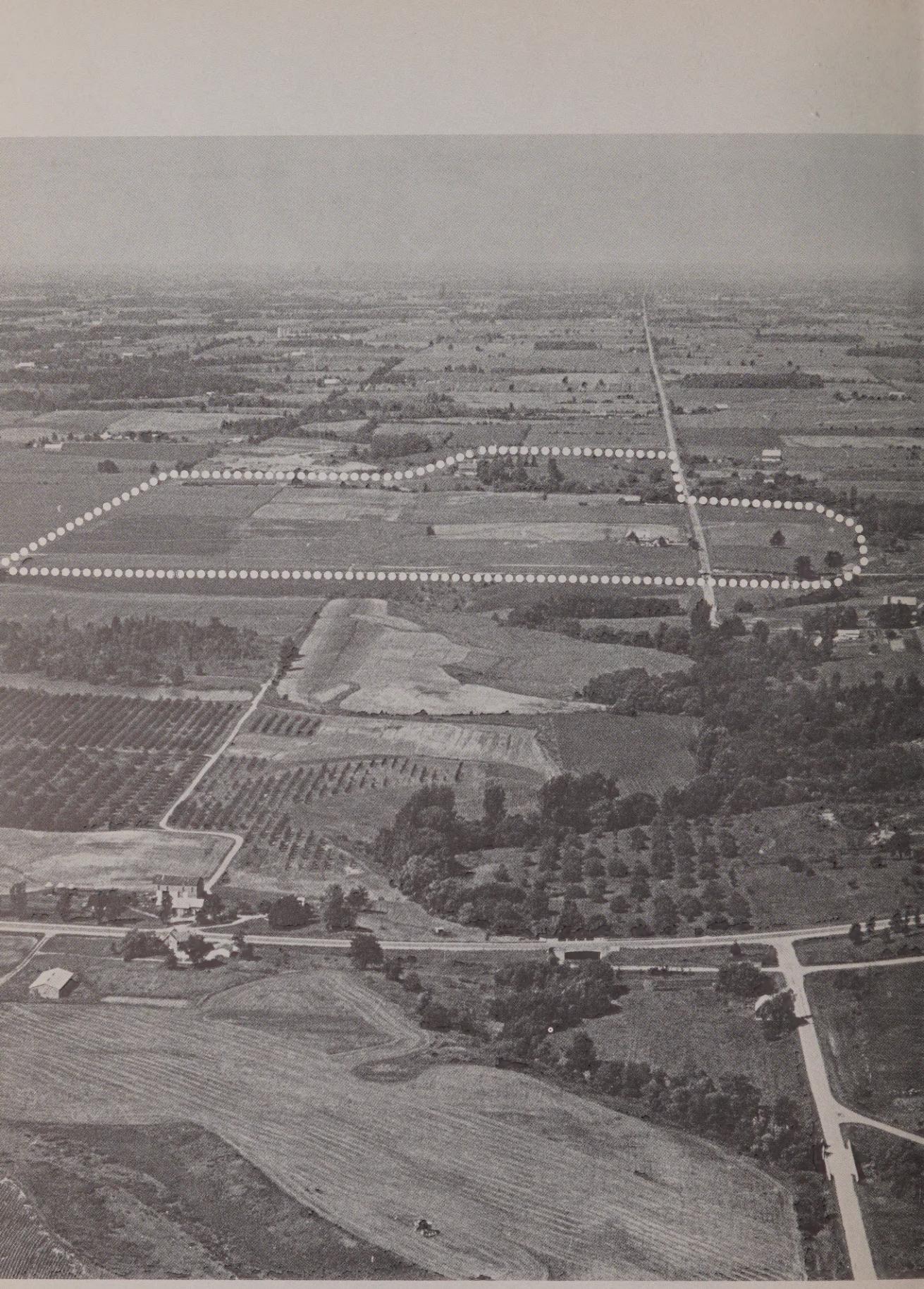
1

Introduction

The purpose of this study is to develop urban design principles for the town centre which are flexible enough to accommodate future requirements for a wide range of building types and activities. Urban design implications on the town-wide infrastructure are shown in order to highlight development issues and program elements which will require more detailed study in the next stages of work.

This study does not recommend a plan for implementation. Rather, it sets out sound principles for the design of the town centre and illustrates the opportunities of the site and its ability to accommodate a variety of urban design solutions. It is designed to achieve the following:

- i) To develop an overall clear urban structure composed of major broad activity zones, movement systems and spatial sequences. This is the fundamental discipline to control and initiate development.
- ii) To investigate means of providing in the centre a general system of service and access routes within which particular developments of different kinds and densities can take place at different times. This is to ensure a rationalized approach to servicing and energy distribution as well as to ensure flexibility within the structural framework for absorbing growth and change.
- iii) To investigate opportunities for establishing a lively, active environment with a sound economic base where a wide range of activities is housed.
- iv) To relate central area activities to existing features and proposed surrounding development.



2

The Site

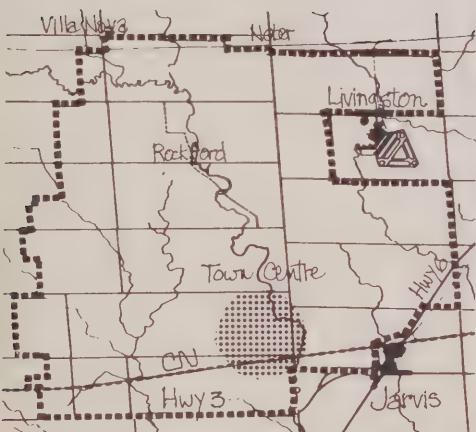
Environment

Location and Access

The centre has been sited on the southern edge of the community, next to the Nanticoke valley and approximately 1 km north of highway 3.

The site will be served by two regional arterials on the south and east for access from the region, and by two town arterials on the north and west primarily for community access.

Looking North



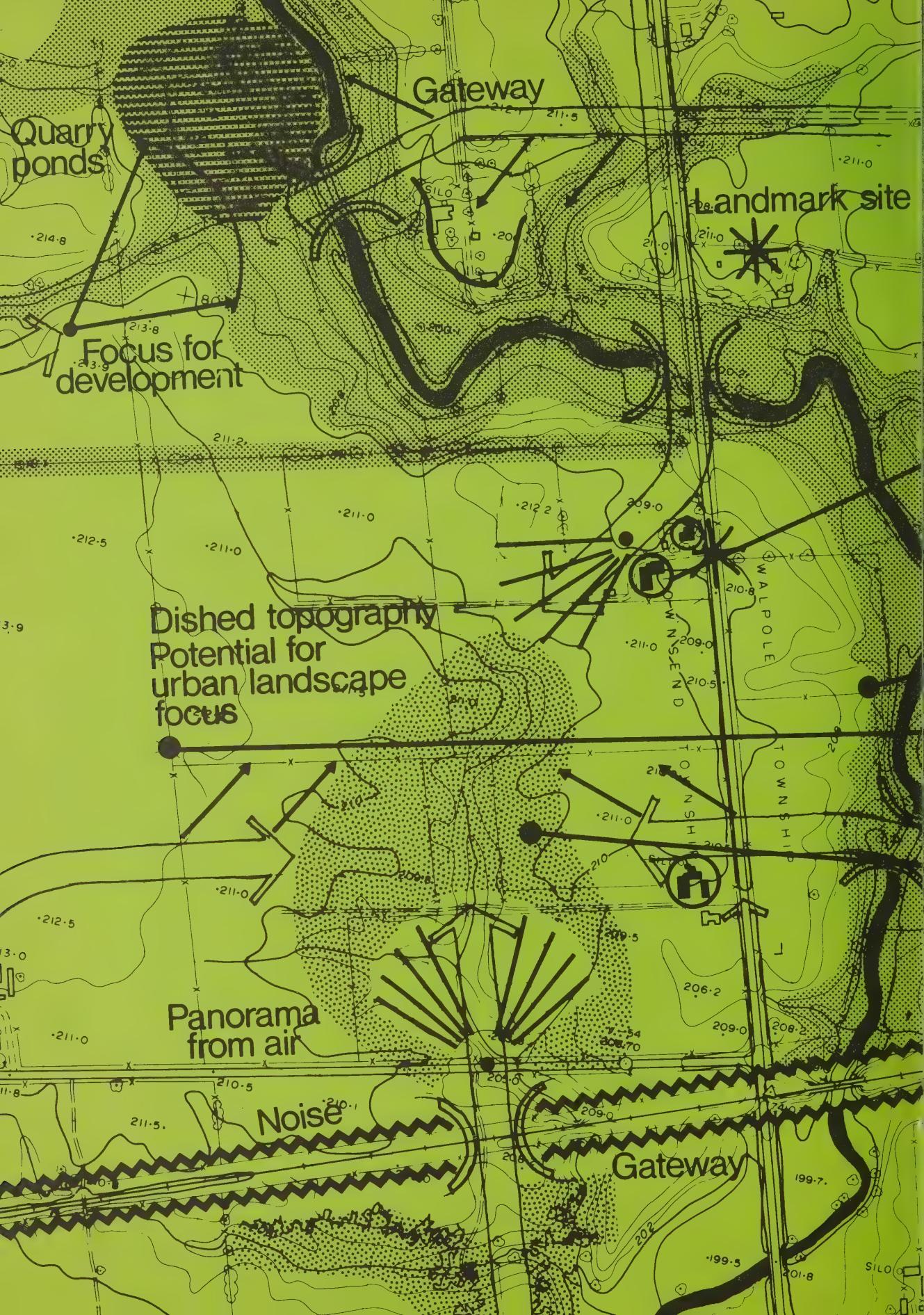
Site Description

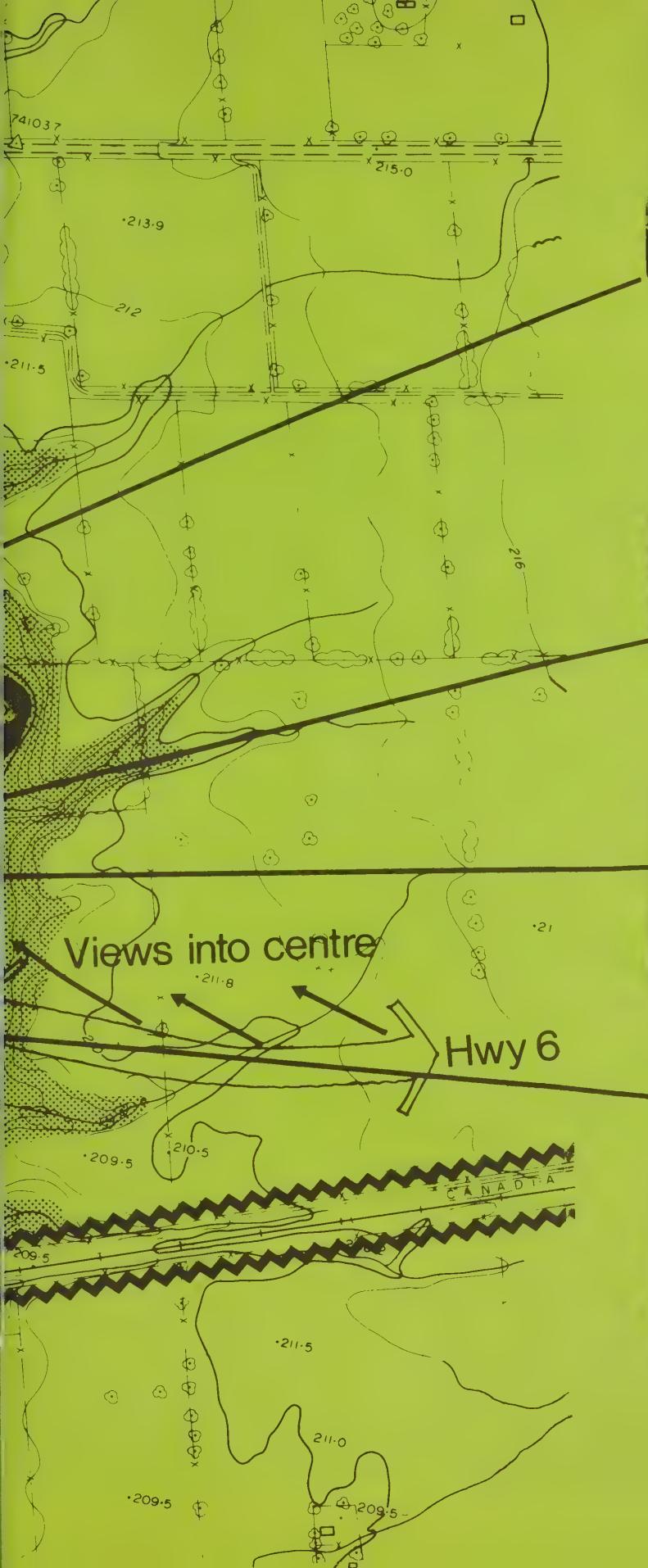
Although the site is relatively flat and featureless, the lack of natural constraints makes it suitable for large scale development.

The Nanticoke provides a highly distinctive setting for a downtown focus. Such developments as a town park, open space for high density housing, complementary activities on both sides of the creek, e.g. the first local centre and community college on the eastern side of the Nanticoke, present opportunities for using the creek as a downtown feature.

Creation of lakes as part of the storm water system and the retention of existing farm buildings for community uses provide opportunities to create local distinctive character.

The central parts of the site, however, require imaginative urban design to create an attractive environment. This would depend largely on intensive urban landscaping and the development of pleasant pedestrian streets, malls and squares.





Existing Buildings and Features



3

Land Use Requirements

View of Town Centre Site Looking North

The area designated for the town centre covers approximately 110 ha (270 a). This area provided in the town centre site is larger than many uni-functional regional shopping centres, but would be comparable in size to other similar centres.

The range and scale of facilities in the centre will be affected by many factors. For preliminary planning purposes, an initial list of possible land uses has been identified and their land requirements estimated. (See Appendix A.) This has been based on what the population in Townsend and its hinterland could support, as well as the provision of facilities which are presently lacking in the region. The land budget required for the listed uses would amount to approximately 100 ha (250 a), depending on the intensity of building and, more importantly, on the provision of car parking. The land requirements will increase as more uses become known.

The adequacy of the site area has been tested by making scale comparisons with other centres. This method of using real examples for models is useful for conveying a sense of scale, walking distances and time, the amount of land required for various activities, and the extent of circulation systems and parking. Also, for specific building types, e.g. city hall, offices and shopping malls, examination of former precedents was used to determine space utilization and development parcel sizes.

The Site Looking South

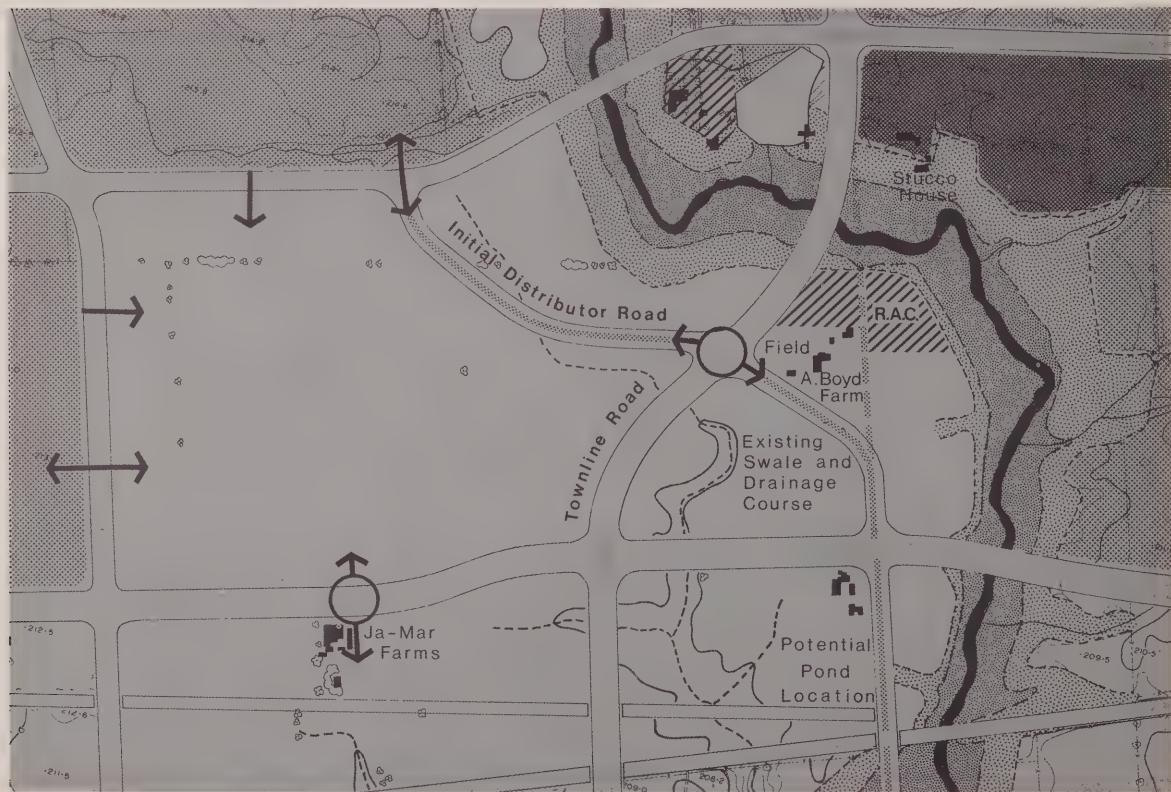
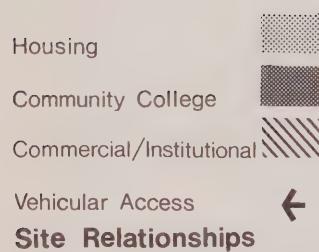


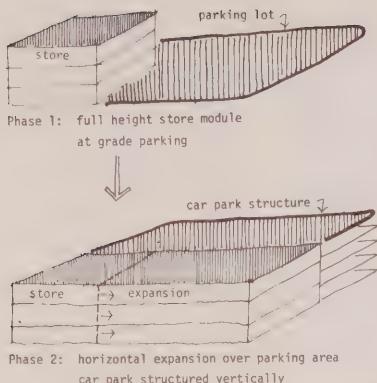
The maximum area required by the listed land uses could demand more land than is available in the site, if all uses were built at the lowest possible intensity. However, this is not characteristic of recent comprehensive developments. Generally, an intensive "urbane" character was assumed for Townsend's centre, with building frontages related to one another along a street. Therefore, the land area reserved for the centre has been based on this more intensive urban character, with some mixing and stacking of uses and sharing of car parking spaces.

Commercial Uses

Retail Townsend at 100,000 population could have a commercial core with about 93,000 m² (1,000,000 ft²) of shopping space. This would be mostly comparison shopping space with at least two major full-line department stores and at least one junior department store, but also containing a variety of specialty shops.

Department stores may be built in modules, beginning as small units but later expanding to full-sized stores. The potential way in which this could happen without requiring the department store to change location is to build a full-height module (say three storeys) and when needed, expansion could take place laterally over adjacent parking lots. Both the lost parking area and the new parking required could then be provided by structuring the remaining parking area into a multi-level facility. This technique would facilitate not





Low commercial buildings define a pedestrian-scaled square

Views and Orientations

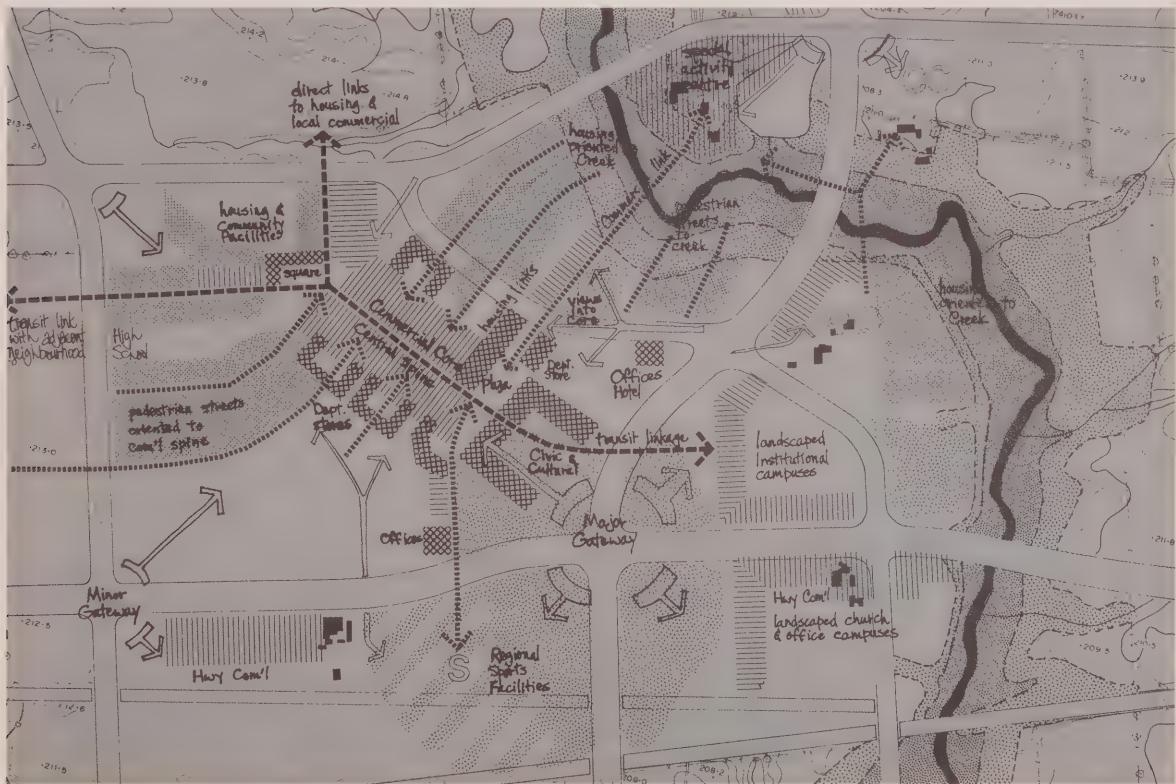
only expansion at the original site but also a multi-level commercial centre, with pedestrians entering the centre at several levels.

Shopping, however, would be provided mainly in ground level arcades and gallerias; offices and maisonettes would be on top. The average height of downtown development in the retail core would be three storeys.

The town centre will also function as the local convenience centre for downtown residents and the immediately adjacent housing areas. Within the total figure noted above, 6,000-7,000 m² (60,000-70,000 ft²) has been included for a major supermarket, drugstores and other convenience shops and services.

Hotels will be needed to serve the Nanticoke industrial development as well as the major population base in Townsend. Initially, provision has been made for 100-150 rooms with related restaurant, meeting and recreation facilities. As a first estimate, 300-400 hotel rooms have been projected for eventual development in Townsend.

Office Space The major industrial build-up in the region will generate supporting service employment. It is expected that most of it can be attracted to Townsend. A large part of the service employment is likely to be in offices located in the centre to take advantage of business linkages and other facilities.





Development of shopping galleria and symbolic buildings around an urban square

Various governmental agencies — ranging from the local to federal — will require office space in the centre to administer the growing population of the entire region. A site for a new regional administrative centre has already been agreed. Other regional office uses that may be required include a police headquarters, registry office and, in the long term, perhaps accommodation for the school and library boards. The City of Nanticoke may also wish to build new municipal offices in the regional centre. The federal government will need space for Manpower, Canada Pension Plan, Unemployment Insurance Commission and the Post Office; and the provincial government for social and health services, various ministries and, perhaps eventually, courts.

A modest amount of private office floorspace also has been allowed for various small businesses, branch offices and professional services serving the local needs of the population.



A sensitively scaled apartment block provides a counterpoint to low horizontal housing and is a landmark for an urban square

Residential Some 6,000-8,000 of the Townsend residents could be accommodated in higher density housing. The downtown residential community would provide a special character. Besides adding diversity to the housing stock, liveliness, street and night life would be contributed by the residents. Residents would include single people, young couples without children and mature couples whose children have grown up. The housing form would vary, but would be mainly low rise/high density, some maisonettes over shops, with a few taller blocks for landmarks and views.

Recreation and Leisure Facilities The town centre could expect to accommodate the following open space/recreation uses:

- a large civic square for civic events, parades, rallies, exhibits, skating and sitting;
- an indoor all-year sports centre with swimming pools, gymnasiums and courts for squash, badminton, tennis and other activities;
- sports fields to be shared by the community college and general public.

Large fields and sports stadia could be developed on the flat fields adjacent to the rail line where they would also provide a buffering function and a landscaped gateway to the town centre.

In addition to the Nanticoke valley, there should be a town park with places for walking, cycling, sunning and other passive pursuits. The town park would be similar to that in other southern Ontario towns.

Additional amenity space can be expected throughout the centre in the form of various pedestrian malls related to shopping and landscaped plazas related to public buildings.



Indoor recreation space integrated with shopping is a wintertime amenity as well as a means of extending the use of the commercial core to the whole family

Car Parking Parking will constitute the largest single land use in the centre. If the needs of every land use were treated individually, about 10,000 spaces could be required when the centre reached full capacity. The parking would cover an area of approximately 28 ha, if all vehicles were to be accommodated at grade. However, in a comprehensively designed and mixed-use centre there are opportunities for sharing as well as utilizing multi-level parking structures so that parking does not dominate visually.

Parking is allowed for on the basis of 6 spaces per 100 m² gross leasable area, not including the housing requirement. Parking for housing in the town centre is assumed to be structured and contained within the envelope of the residential floorspace. Parking would be provided for bicycles also. Decked parking for the retail commercial area would be phased in over time.

View West on Main Street



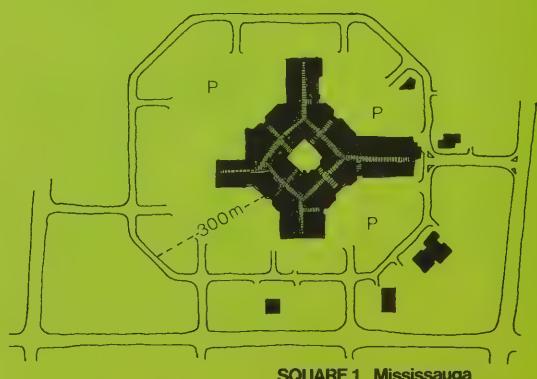
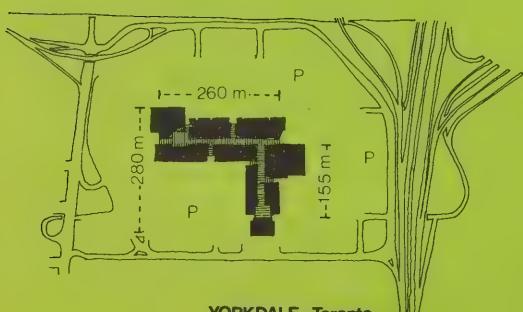
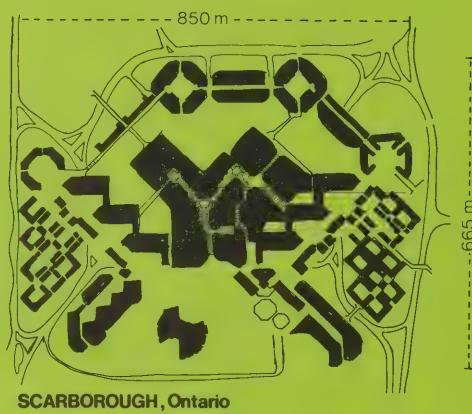
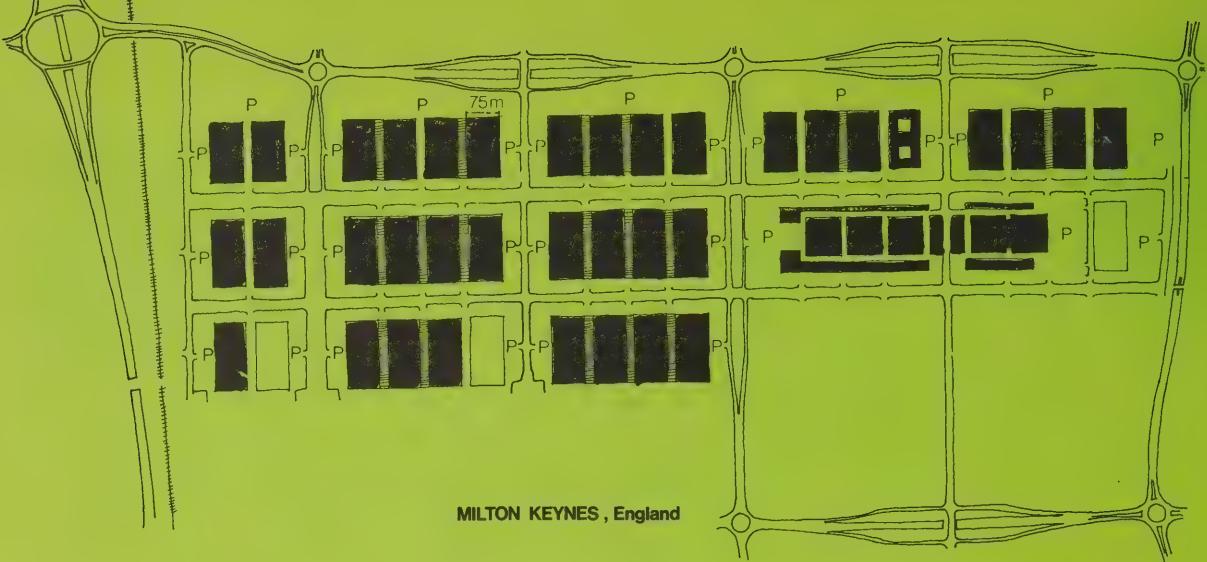
Bell tower is a focal point for an urban square

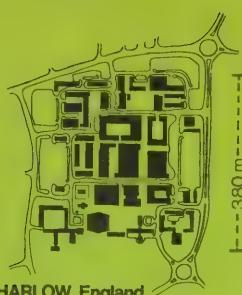


Other facilities A variety of major community facilities and small businesses can be expected within the town centre, including theatres, a central library, churches, an art gallery, a museum and a community centre, as well as a variety of crafts, artisans and artists.

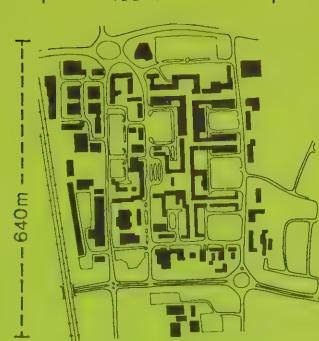
Space has been reserved also for community health facilities. In the later stages of the Townsend development it is likely that a general hospital will be required, associated with a public health building and other special facilities. These would be planned in a landscaped setting east of Townline Road.

Transportation facilities within the centre will include a central bus terminal in order to provide a convenient interchange point for regional services and serve as a focus for internal transit services.





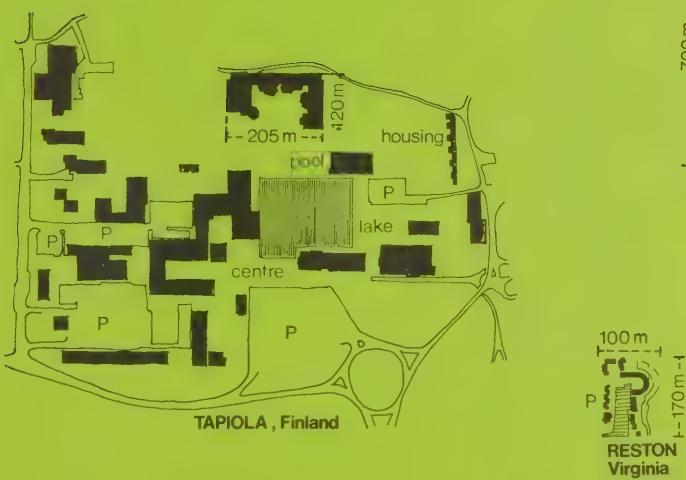
HARLOW, England



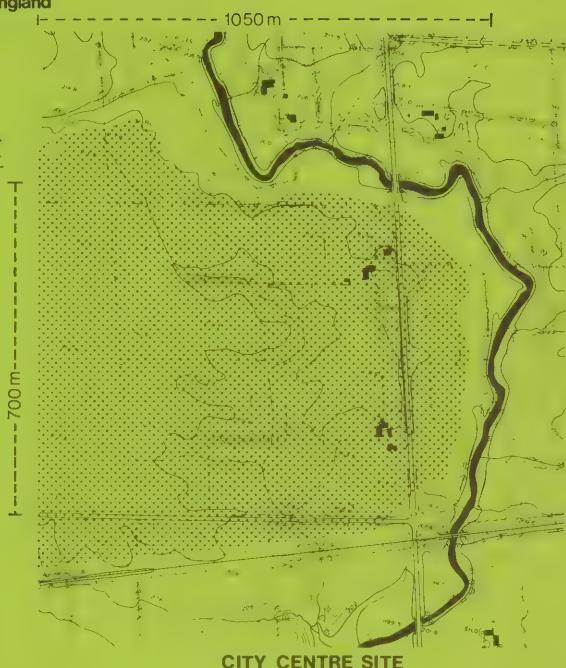
STEVENAGE , England



CUMBERNAULD , Scotland



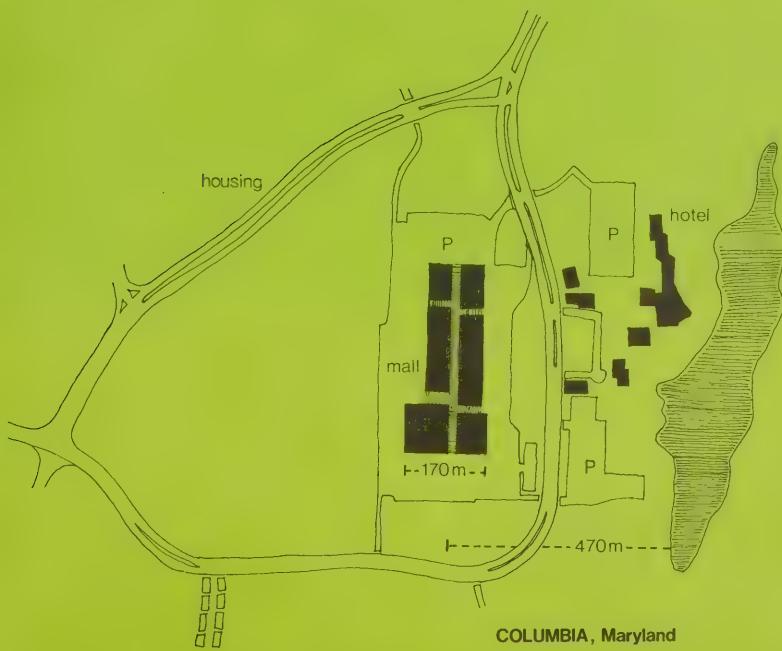
TAPIOLA , Finland



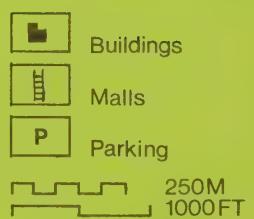
CITY CENTRE SITE



RESTON
Virginia



COLUMBIA , Maryland



Comparable Centres



4

Concept for Urban Structure

Central Pedestrian- Transit Street

The following section considers the design concepts which would lead to an exciting and viable town centre. The special characteristics of the site, space requirements and design principles are developed into a physical form and activity pattern. The three-dimensional quality and design potential of the town centre are explored.

Urban Design Concept

Mixed-use development The integration of a rich mixture of mutually supporting activities. The principle of mixed land uses is considered to be the way of achieving a feeling of urbanity, diversity of activity, intensive environment and a balancing of economics throughout the town centre. The major characteristics of mixed-use development are:



Galleria, Milan Its success as a pedestrian shopping street serves as a model for contemporary urban design

- Mixed-use developments provide urbanity, i.e. intensify richness of living; enhance people's range of experience; create easy access to a variety of activities; help keep the city alive and economically viable.
- Mixed-use tends to reduce energy requirements, i.e. replaces vehicle trips with walk trips; reduces air pollution; compact for district heating and sharing of infrastructure.
- Mixed-use developments are user-oriented, i.e. the opportunity for comfortable and amenable, auto-free pedestrian access to multiple experiences in an exciting physical environment.
- Mixed-use developments make economic sense for the developer, i.e. "spin-off" benefits are derived from a rich mix of mutually supporting uses spanning the widest possible activity period and responding to the broadest possible market.



A strong link between both sides of Townline Road encourages relationships between activities and adds to convenience for pedestrian, bicycle, automobile and transit circulation



The narrow galleria encourages easy pedestrian movement across the mall. Housing and offices on upper levels add to the liveliness and diversity of the space.

Activity Zones A clear urban structure composed of major broad activity zones, movement systems and spatial sequences. This is consistent with the mixing of land uses, but there is a grouping of certain uses in specific locations to take advantage of environmental quality, regional access, views, etc.

- Zone 1 follows the Nanticoke valley. Its character should be governed by its relationship with this major landscape feature. There should be places to play, sit and talk or relax in the sun all uses that can enhance or benefit from this special area. Uses would include terraced high density housing, hotel, leisure facilities, cafes and prestige office developments. Many of these might be campus-type developments set in generous landscaping.
- Zone 2 is on the northern and western edges of the town centre and is the interface between downtown and adjacent neighbourhoods. It should be a quiet and low-scale environment, with small squares and urban spaces. Uses would include a mixture of housing, local shops, professional offices, small work shops, studios, cultural and community facilities, supermarket and related services.
- Zone 3 in the centre of the site is the commercial core, having the highest degree of access and greatest intensity of use. It would contain the major public attractions: shopping, restaurants, entertainment — all uses which thrive in close proximity to one another. Generally, the area will be characterized by busy streets, bright lights, bustle, lively attractive frontages and closely spaced activities. Design for the pedestrian should be given priority through separate malls and walkways free of cars, and continuous protection from weather under arcades.
- Zone 4 is associated with the regional roads. Although direct and attractive pedestrian access should be provided to this area, the distribution of activities and site planning would be orientated toward automobile access. Uses would be more land-extensive in character, many requiring their own parking facilities and less dependent on busy street life and casual trade. These include car dealers, hardware and building supplies, sports fields, institutional complexes, service industries and showrooms. Because of the location at the gateway to the town, the appearance from the road will be important. This will require landscaped park-like settings within the area and designed views from the road using trees and berms.



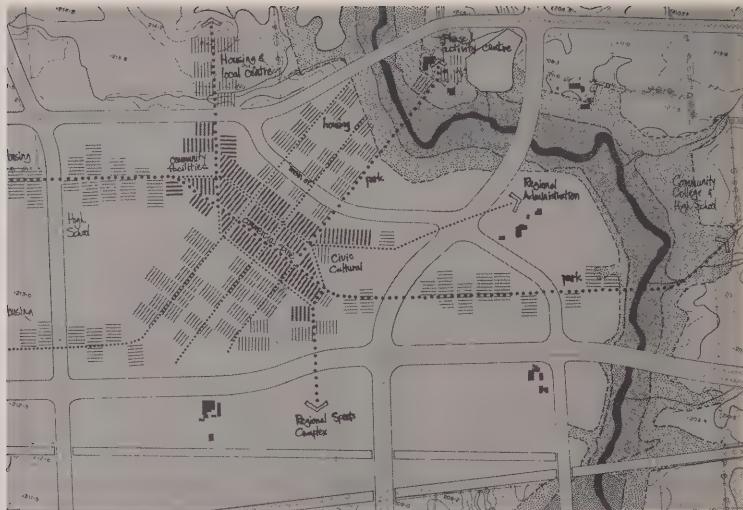
Predominant Activity Zones

Valley Edge	1
Housing Interface	2
Commercial Core	3
Campus Area	4

Intensity of development The town centre would begin with "main street", the typical Ontario downtown with buildings ranging from one to three storeys. Later major retailing is concentrated in a relatively small area with decked parking adjacent to major retail facilities. Buildings form continuous street frontages unbroken by car parking or large non-functional uses. Street continuity is important for shopping. Increased building intensity achieves increased accessibility for pedestrians from parking areas to shopping streets, and makes a multi-level centre more feasible, e.g. direct access from upper level parking to upper sales floors of department stores.

Commercial spine Following are a set of urban structuring principles which support the concept. The principles are based on a commercial spine which links all the elements together. This is a suitable form for achieving the concept because it provides the pedestrian continuity in the mixed land use, multi-functional centre.

Commercial Spine



The orientation of the commercial spine and its circulation framework facilitates access by local and regional residents alike. The major parking lots have direct access to commercial facilities; pedestrian movement is uninterrupted and comfortable.

The immediately adjacent residential areas have a unique relationship to the town centre. Housing would be street-related in the downtown area and form the interface between the town centre and adjacent residential areas. Well-designed pedestrian access from these areas would contribute to the pedestrian character of the downtown.

Roads and Parking

Through traffic is routed on the arterials surrounding the town centre. Road access is provided on all four sides of the site. Access points are limited by operational considerations to spacings of 250-300 m (750-1,000 ft).

The roads leading to the town centre should be treated as visual gateways. These would provide vistas of the town centre. The first views into the centre, especially from the intersection of Townline Road and the east-west arterial, must present an inviting image. They should also provide the approaching motorist with a clear sense of orientation to the major town centre components and internal circulation system.



Scale and character precedent for Main Street
This form is suitable for early commercial development — first phase of distributor road system

The internal distributor road system is based upon a loop around the main commercial core. This road connects to the surrounding arterials, and provides direct access to the main car parks, service areas and local roads. The system will be used primarily by automobiles with pedestrians, buses and bicyclists accommodated elsewhere.

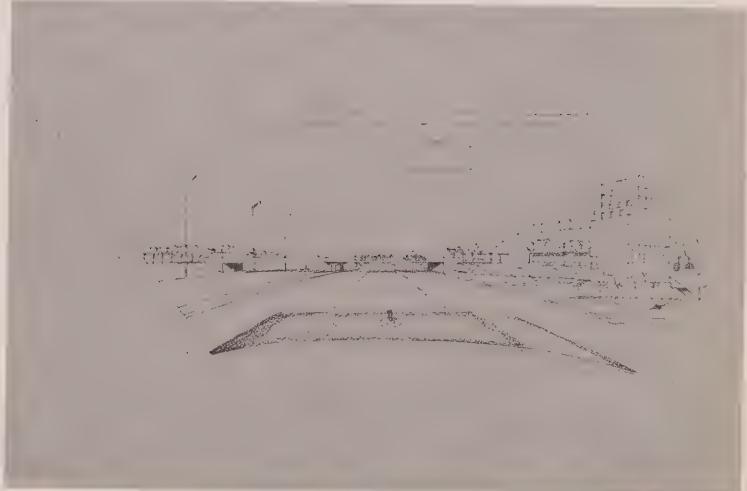
Approach from the south After crossing the rail, we see a landscaped entrance to the town centre. In the foreground are sports fields and pond. The view is framed by the institutional uses on the east and the commercial spine on the west.



Closer to the entry point, the landscaping and character of Townline Road change. Tree planting is more formal, traffic destined for the centre is channelized using earth forms; offices and civic buildings form an urban edge to the road. In the distance, the Anderson farm and first local centre are important.



Approach from the north The Nanticoke valley and bridge form a gateway to the town centre. The valley foreground provides a vista to "main street" and the hotel overlooking the creek.



Even with through traffic excluded, the amount of local traffic in an area of 110 ha could conflict with environmental objectives unless carefully organized. The distributor roads are vehicle-predominant. Their main function is to provide access to arterials, major car parks and local roads. Goods delivery, servicing areas and main car parks are directly linked to these distributors.



Short term parking on "main street"

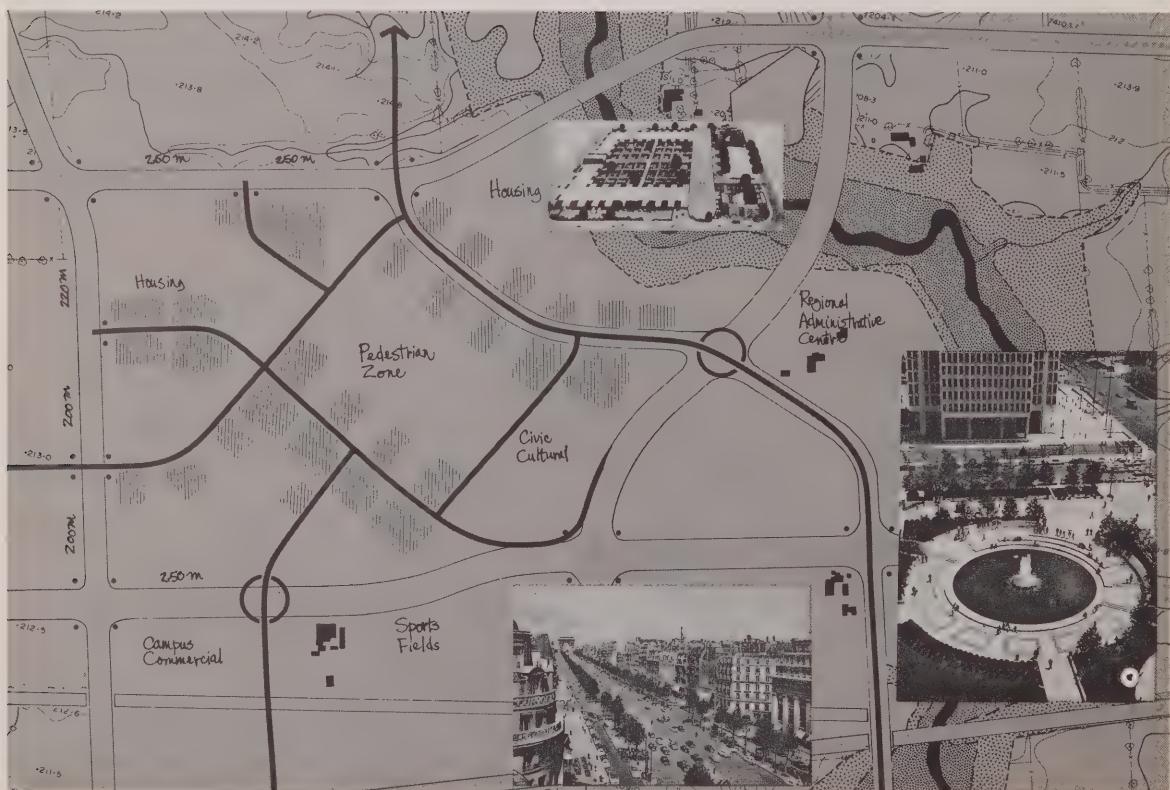
There would also be a network of local roads providing access to buildings and small car parks. Their design would accommodate private car, taxi and limited goods drop-off, and pedestrians on sidewalks. Unlike the distributor roads, they would not be continuous.

Emergency vehicles would have access to all distributor roads and pedestrian streets.

Major car parks would be directly off the distributor road system. Other small linear car parks for short term parking would also be located along streets where pedestrians and vehicles mix.

Parking Area

Roads and Parking Principles



residential

Parking areas are organized for multiple use, close to activities they serve. The larger lots are 250-car units, a size which can be compatibly integrated with associated pedestrian-scaled development, and which allows for future structuring into decks.

commercial

parking

parking

Servicing & staff parking

Transit

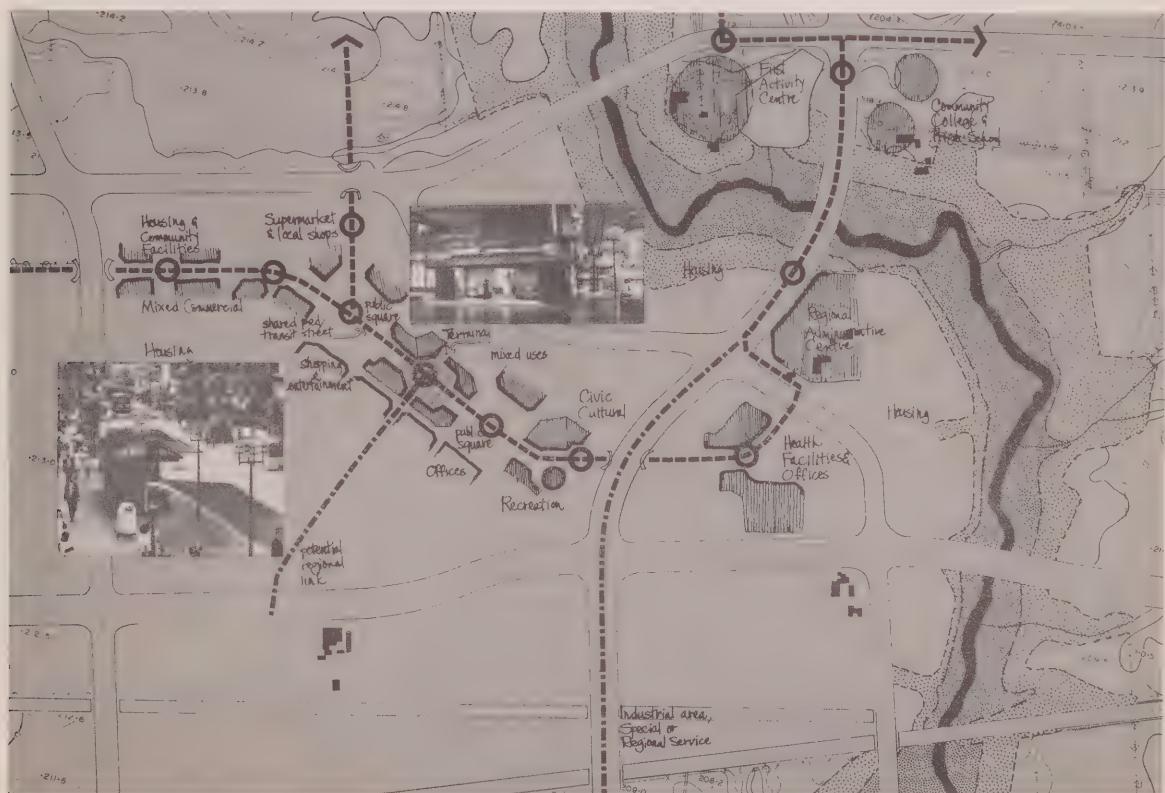
The town centre is a focus for all local bus routes, and is the location of a transit terminal where transfers can be made to regional services.

Transit is routed centrally through the town centre, down the linear shopping core, in order to provide direct access to buildings and malls. The main transit route through the town centre is a mixed transit/pedestrian mall. It is an open-air arcaded street fronted on both sides by shops and other facilities. Bicycles, also, would have access and parking facilities along this street.

Bus Stop



Transit Principles



Pedestrians

The pedestrian system is the primary movement framework in the commercial spine. The design of the roads and parking serves to exchange vehicular trips for walking trips.

Main pedestrian routes link important nodes within the town centre to the adjoining areas, and directly serve major shopping, entertainment, public uses and transit. The routes are generally at ground level, but convenient grade-separated links to adjoining sites have been indicated at intervals of approximately 300 m (1,000 ft).

Secondary pedestrian routes, together with the main routes, give safe convenient access throughout the town centre generally at 100-150 m (300-450 ft) grid. This interval reflects the character of pedestrian movement but would allow limited movement for taxi, drop-off and pick-up, and provide secondary linkages with local shops and other facilities.

Intersections are treated as focal points with landscaped sitting areas and plazas at 300-400 m (1,000-1,200 ft) intervals.

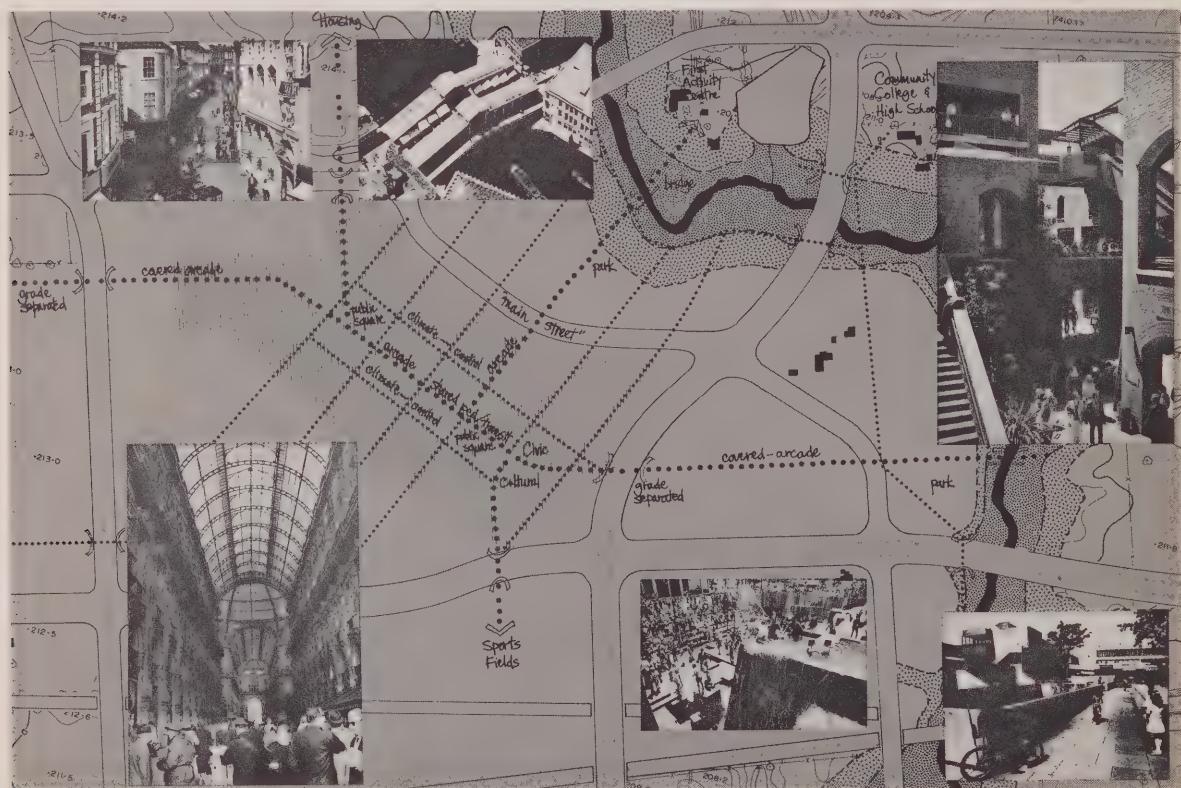
Pedestrian Zone |-----|

Main Path

Secondary Path:

Arcades provide weather protection for pedestrians and separate human-scaled activities from the vehicular roads.

Pedestrian Principles

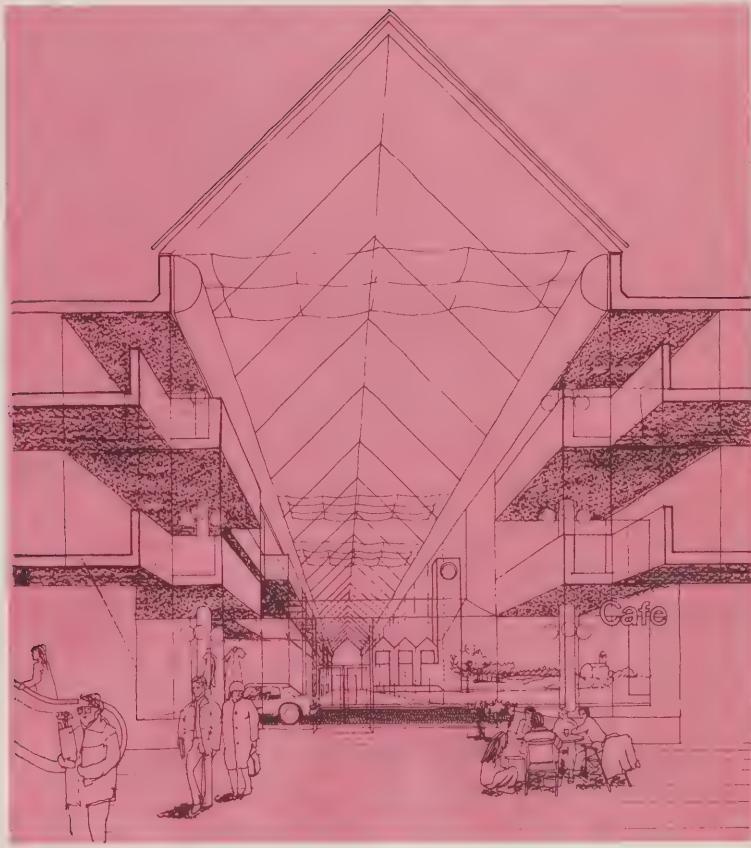


The Townsend Galleria

A galleria designed at an appropriate size for Townsend
The glazed roof allows sunlight and views of the sky
while protecting people from wind and rain

Only one major enclosed shopping mall is likely to be developed in Townsend

A commitment to energy conservation and design for the climate would encourage further development of climate controlled streets



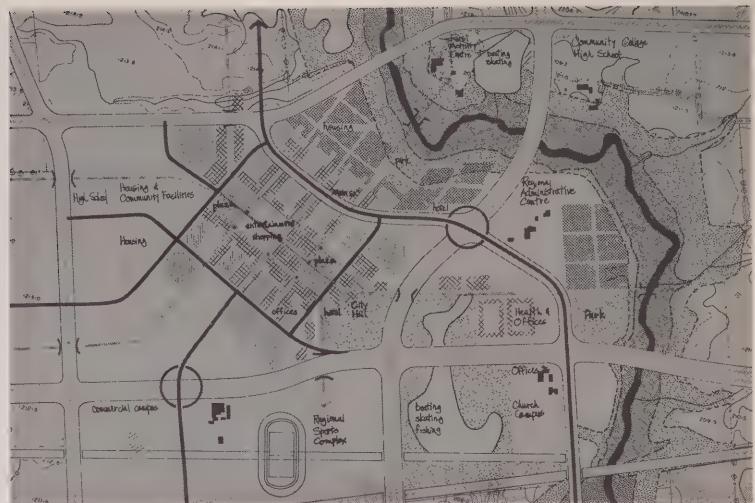
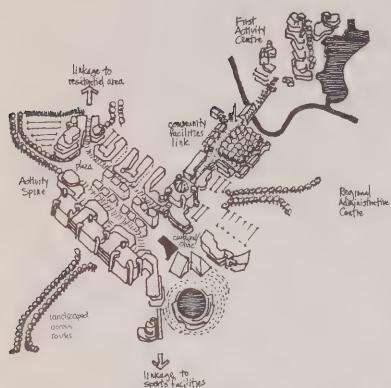
Design Potential

Activity Pattern To illustrate the potential character of the town centre, examples of prototypes developed elsewhere have been translated to the Townsend setting. The spirit and principles of these prototypes can be adapted at a scale and size appropriate for Townsend.

The public infrastructure of pedestrian, transit and vehicular routes has been used as an urban structuring device. The focus of this urban structure is a central spine designed to reflect the traditional "main street" of downtowns in southern Ontario. But here it is designed for pedestrians and buses, and provides direct access to the major facilities along its length. Public squares punctuate the shopping spine at convenient intervals for the pedestrian, creating focuses for special developments and activities, such as a city hall and civic square.

Adjoining this spine are narrower gallerias for pedestrians only. These provide opportunities for multi-directional movement and links to diverse parts of the town centre. Within this area, buildings form continuous street frontages unbroken by car parking or large non-functional uses.

Activity Pattern 1



Well-designed and scaled bridge blends well with environment

Car parking areas immediately around the commercial core would be structured vertically, providing convenient access to upper levels. Buildings would wrap around parking areas to minimize visual intrusion and maintain pedestrian scale and continuity on the internal shopping streets.

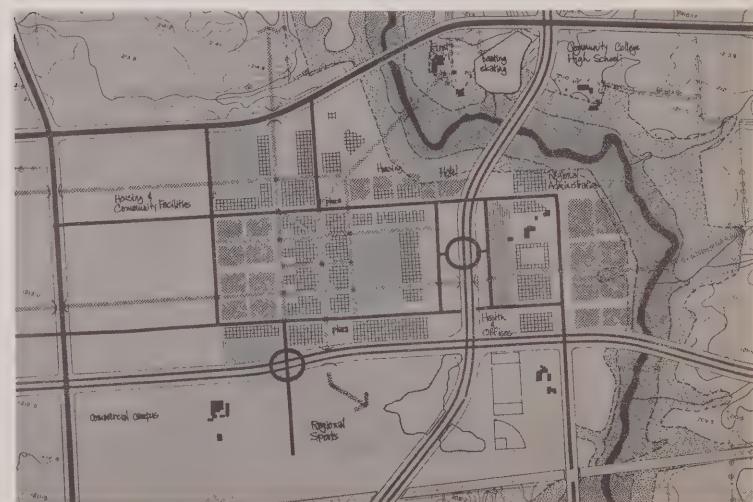
Outside, the core development is concentrated along a number of fingers. These fingers of high density street-oriented townhouses, arcades of shops and offices, cultural and entertainment facilities, link directly into the commercial spine. One of these links the initial activity centre, north of the Nanticoke, to the core, making it a specialized extension of the town centre.

Housing in the town centre would take varied forms: lining the fingers leading into the commercial spine, terraces overlooking the Nanticoke, townhouses grouped around landscaped urban squares, maisonettes over shops.

Alternative Activity Pattern 2



The landscaping of the town centre contributes to sense of urbanity. Trees are in rows, form canopies, define boulevards and avenues.



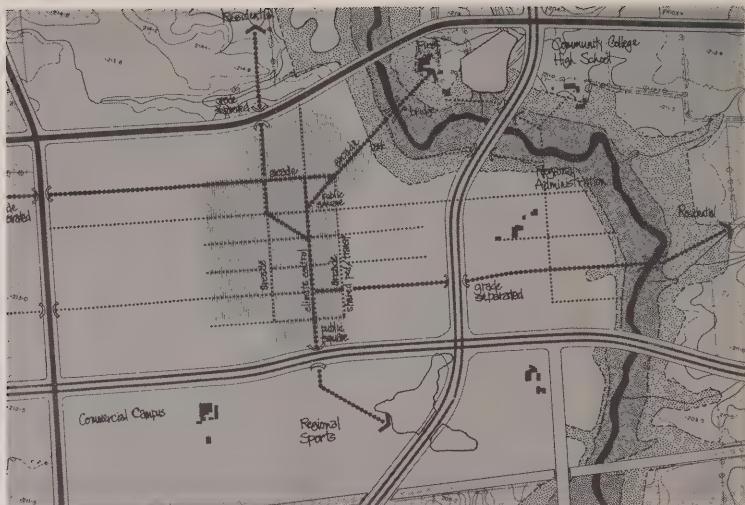
There are several options for the orientation, arrangement and phasing of the circulation pattern and major program elements. Each has design implications for the function and character of the town-wide infrastructure framing the centre.

Alternative Vehicular Network 2



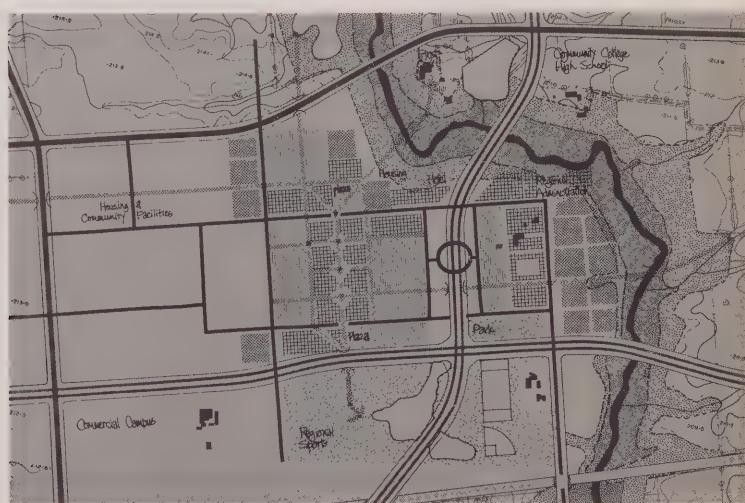
- The proposed location for the Townline Road crossing of the rail line can accommodate either an overpass or an underpass. Both these situations should be studied further to explore their visual impact on the town centre.
- Adjusting the alignment of Townline Road through the town centre should be considered in order to focus centre-destined traffic on important views and access points.
- The Townline Road alignment should be further considered as a means of defining "visual gateways" to the town centre, e.g. Townline Road could ride on columns over the retention pond, framing the entrance by water and landscaping.
- The emphasis placed on the various arterials around the town centre for access has major effects on the location and orientation of major car parks and commercial spine.
- Grade separated access points on the regional arterials have considerable effect on visual intrusion, landscape and development. The necessity for such interchanges and their design require careful study in order to avoid segregation of activities across the arterials.

Alternative Pedestrian and Open Space Network 2



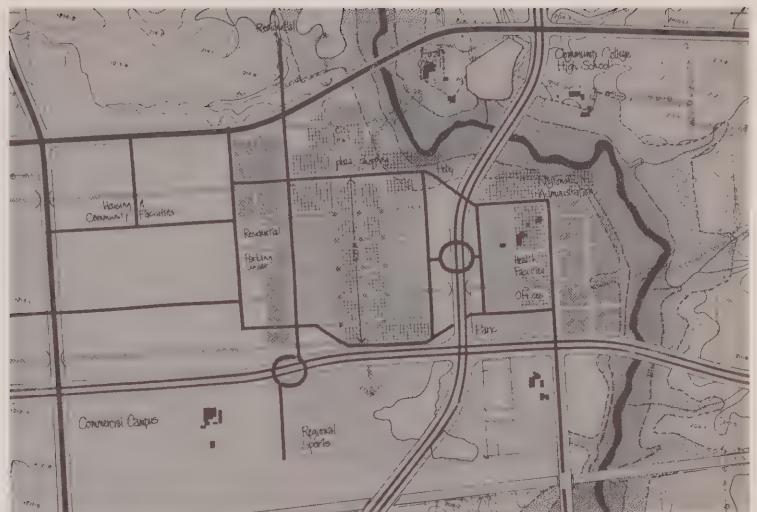
The early development of the "main street" link of the distributor road system is important for the orientation of facilities along the Nanticoke and the creation of a strong link between the town centre and first local centre. The character of the road, including its relationship with Townline Road, potential for first hotel and commercial facilities, and linkage with development east of Townline Road, all deserve further detailed study.

Alternative Activity Pattern 3



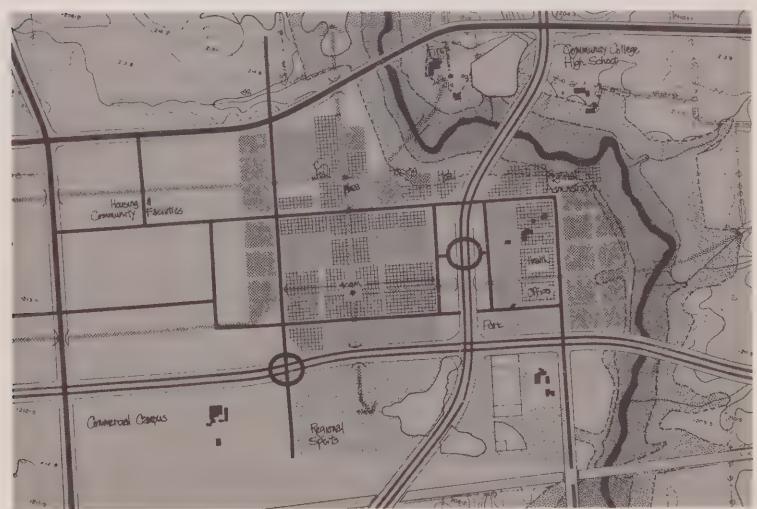
In this alternative the commercial spine is shifted east, with the parking load arranged more symmetrically around the shopping. Developments where the commercial centre of gravity is closer to Townline Road facilitate regional car parking with minimal disruption to the rest of the site. However, this option tends to reduce accessibility from the town arterials and mitigates against using the commercial spine as a linking element with adjacent neighbourhoods.

Alternative Activity Pattern 4



This alternative shows a north-south commercial spine with the town centre distributor roads displaced north and south. This allows a larger building parcel for the spine, uninterrupted by vehicular traffic.

Alternative Activity Pattern 5



The commercial spine runs east-west in this alternate. The parking load is distributed to the north and south of the spine with the north lot shared with the first "main street" shopping area. A short 'T' connection is made to tie the spine into the main street.



1



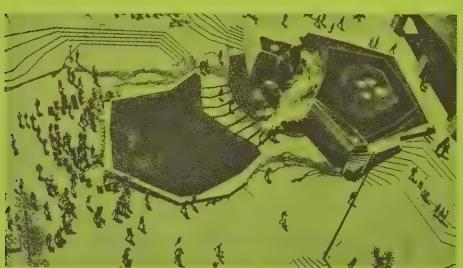
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3



7



4



8



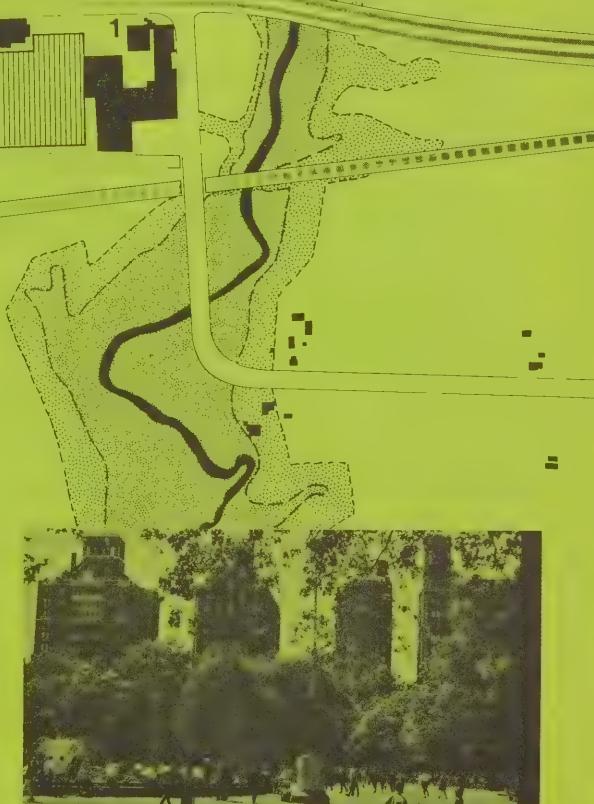
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10



11



13

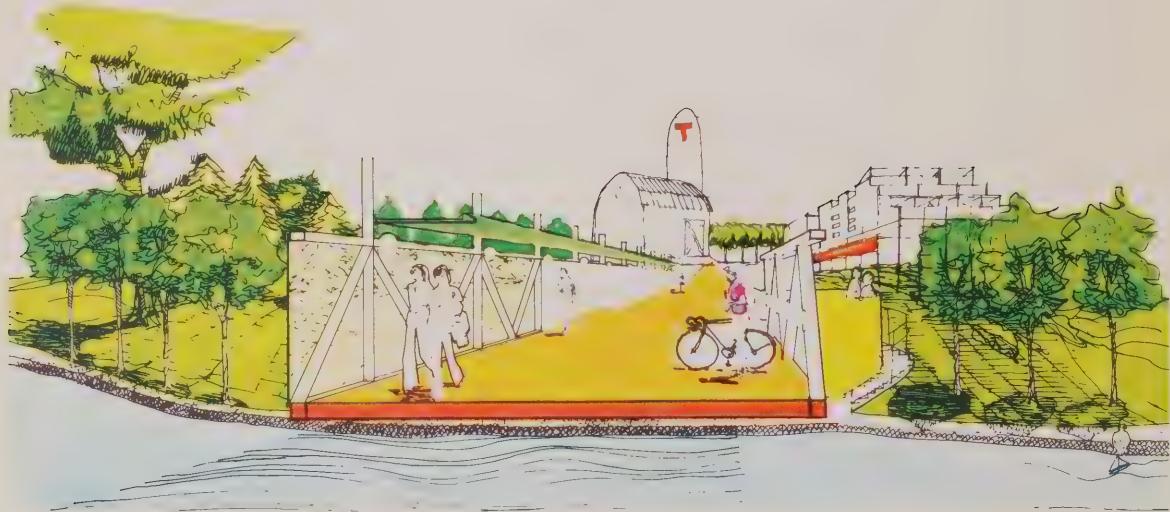
Design Potential

Microclimate The shopping environment must be comfortable both winter and summer. To protect pedestrians from the cold winter wind, buildings must be massed and designed to shelter the streets and arcades. The orientation of the commercial spine serves a linking function, but massing must be carefully controlled to shelter open streets from winter winds and to flush out stale warm air in summer. (See Appendix B.)

Much of the shopping core, except for the transit spine, would be covered. The town centre, because of its compact structure and continuity of buildings, is particularly suitable for climate control, district heating or other energy-saving devices. The covered shopping malls and gallerias which link them would provide a comfortable pedestrian environment in all types of weather.

Linkage with First Local Centre

Bridge can be detailed to fit in with landscape while screening pedestrians from cold winds and inclement weather Planting can be used to shelter remainder of path in valley



Nanticoke Creek The Nanticoke Creek is a valuable resource for the site and should be used as a focus of activity in the town centre.

The area between the town centre and the Phase 1 Centre is historically significant. Among historical artifacts, it is the site of a former cheese factory and saw mill. One of the major historical nodes along the Nanticoke valley, it significantly is once more re-emerging as the important first centre for Townsend.

Link between Town Centre and Phase 1 Local Centre



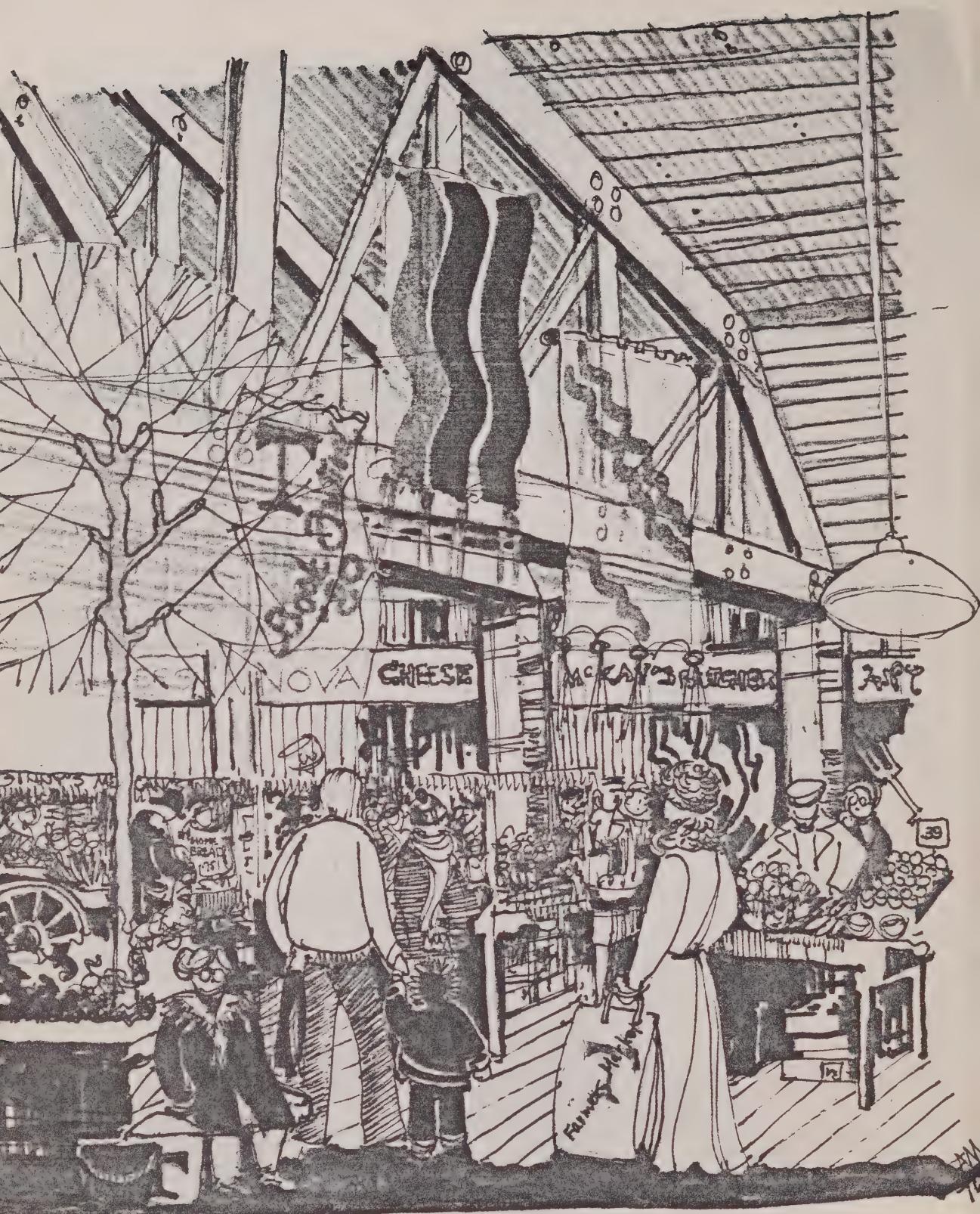
Community facilities can be used for a bridge provided their design satisfies the flood plain and hazard requirements

The creation of a strong pedestrian link across the Nanticoke is important to integrate the Phase 1 commercial area with the town centre. This could be achieved by intensifying uses along the bank, providing opportunities for cafes and shops with terraces to open onto creekside walks.

Housing along the Nanticoke could accommodate ground floor, small-scaled commercial and community facilities, or alternatively, more intensive commercial uses could be oriented to the Nanticoke valley.

Town Centre Housing near the Nanticoke





Phasing and Expansion

Development Blocks

Growth will take place by means of a building block strategy. This means that the town centre site is laid out in a grid block pattern, the grid squares defining individual development parcels. The size of the grid varies according to potential uses and is determined by (a) the functional size of specific uses, such as department stores, supermarkets, office buildings, and (b) the spacing of vehicular and pedestrian routes.

This pattern allows for growth similar to the historic development process of streets and building plots. It retains the advantages of integrated planning (continuous street frontages, pedestrian routes, arcades, etc.) while avoiding some of the complexities and disadvantages of large complex building structures. This is possible through development control, a vital part of this strategy for growth.

Objectives The objectives of this building block approach for growth and phasing are:

- To allow growth to take place incrementally over time in order to minimize need for concentrated investment and megaform solutions. This provides a great deal of flexibility for phasing, the sizes of phased packages of development, and minimizes heavy front-end costs where not required.
- To encourage variety and plurality in investment and participation in the town centre, both public and private. There are opportunities for both large projects taking up several building blocks as well as small projects which may occupy only one block. Large scale retail development, i.e. department stores and related shops, by major developers, could occur using this approach while allowing for the small investor also.
- To evolve a pattern where each individual project, whilst making its contribution towards the achievement of the overall road and pedestrian (public infrastructure) network, forms in itself a complete and viable unit.



Development Blocks

Characteristics

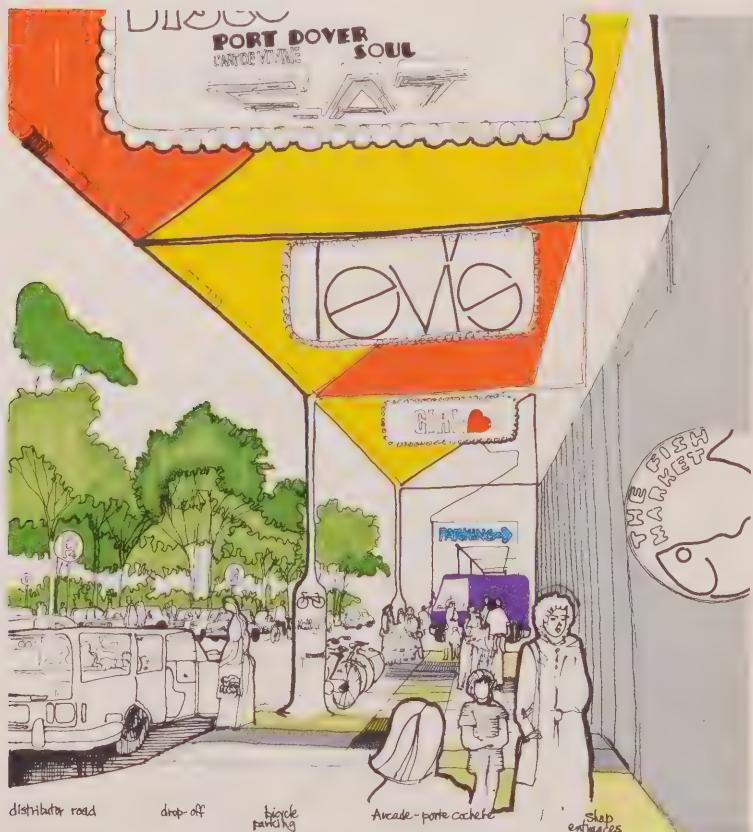
- Growth takes place by small increments as and when resources are available, rather than in major concentrated construction projects.
- Great degree of choice of site layout at each stage of growth.
- Organizations and businesses using the centre are better able to achieve a sense of identity and independence, and particular buildings can be built on an almost domestic scale.
- Individual units of accommodation can allow for varying degrees of separate management and control within an overall coordinating management framework.
- Division of the town centre accommodation into small blocks makes it more possible to avoid its being dominated by any one user.
- Pedestrian movement between blocks via weather-protected paths is achieved by the development control guidelines; adjacent users provide a proportion of the required links.

Development Guidelines The purpose of development guidelines is to assure that development projects are implemented as intended. They include urban design principles, review group procedures and mandatory presentation requirements. This is the means to assure integration between development blocks and compatibility with the rest of the town centre.

A detailed development brief should be prepared for each development block, containing description and diagrams covering each of the urban design parameters to be included in the development. (See Appendix C.) The brief would deal with the integration of uses and relationship of support facilities:

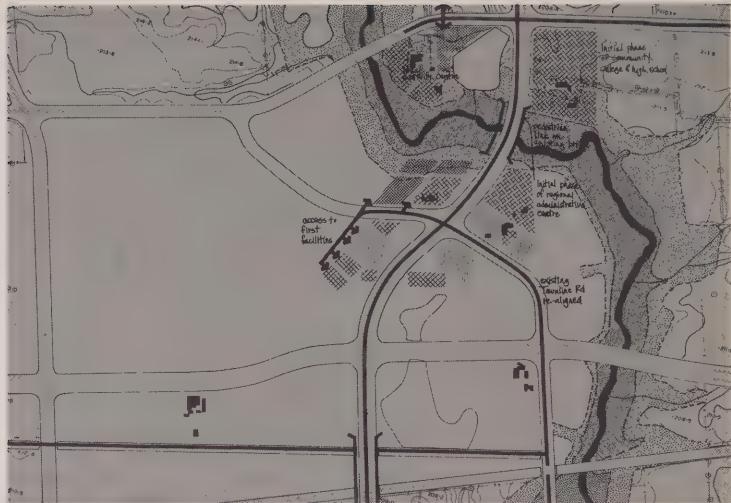
- public infrastructure and open space
- pedestrian continuity and linkages
- vehicular and pedestrian separation
- shared operating functions, parking
- microclimate, pedestrian amenity and controlled environment.

Side Entrance to Commercial Spine



Phase 1

Townsend at 5,000 population
Region at 104,000 population
The first local centre is developed and regional facilities are clustered near Townline Road
GLA = 9,500 m²
Parking = 550 cars
Housing = 115 units in local and town centre

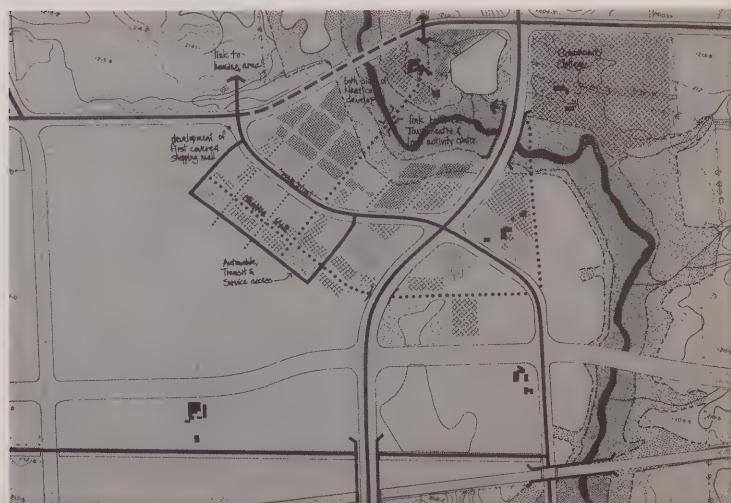


A potential growth pattern for the town centre is illustrated in the phasing diagrams. These show how the building block process could work at four successive stages of Townsend's growth. After the fourth stage (60,000 population) the town centre would reflect a mature development state, except for various infill sites and potential intensification of development related to structured car parking. After this time, incremental growth would not change the site plan diagram significantly.

At the 5,000 population level, a local activity centre, incorporating the marketing facilities and development offices, will be developed directly north of the town centre. Although it will serve in the early years primarily a neighbourhood function, given its attractive site and good access, the centre has the potential in the long term of becoming an extension of the town centre for specialty shopping or entertainment.

Phase 2

Townsend at 20,000 population
Region at 133,000 population
Development of a mall, shopping and parking at grade GLA = 65,000 m²
Parking = 4,000 cars
Housing = 600 units (including parking)



Phase 3

Townsend at 40,000 population

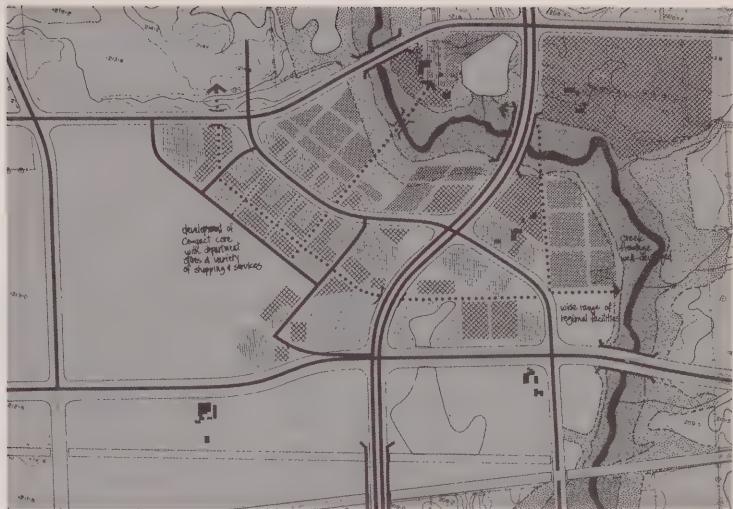
Region at 170,000 population

Shopping mall, development of first, multi-level commercial space, expansion of department stores and first structured parking

GLA = 100,000 m²

Parking = 5,000 cars

Housing = 2,000 units (including parking)



Activities in the town centre proper at this time could include the initial stage of the regional administrative centre, a small hotel and perhaps the municipal offices. Some 100 high density housing units along the Nanticoke also would initiate the downtown residential community.

By the 20,000 population level, the area would be an identifiable and multi-use centre. Townsend, together with the surrounding region, could support the initial stage of a department store, a major supermarket, drugstore and associated shopping. Other facilities could include professional and government offices, a community health centre, indoor recreation centre and various social services.

Phase 4

Townsend at 60,000 + population

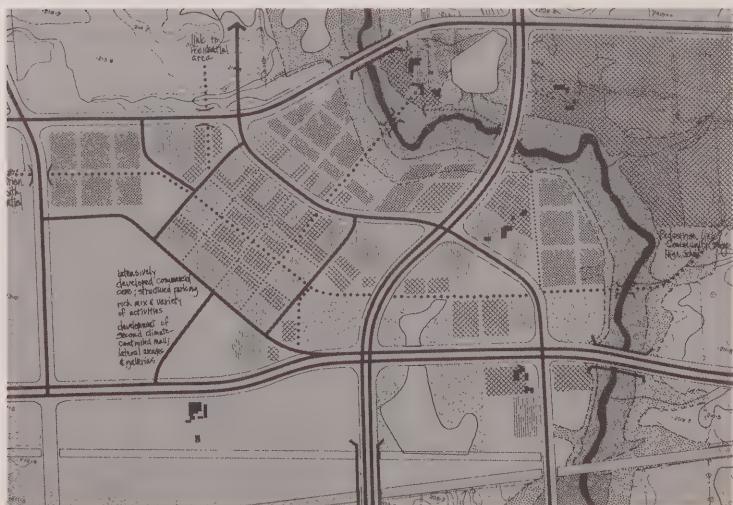
Region at 179,000 + population

Development of second shopping mall and variety of shopping streets, enclosed gallerias and arcades, mixture of at grade and structured parking

GLA = 175,000 m² +

Parking = 9,000 + cars

Housing = 3,000 + units (including parking)



The diagonal road paralleling the Nanticoke would be developed by the 20,000 population level. This road is the first link in the distributor system for the future town centre. At this time, it primarily provides access for the neighbourhood housing areas to the northwest and the higher density units along the valley.

Main Street and Access to Car Parks



Campus developments, such as the expanded regional administrative centre and health facility, would develop east of Townline Road with access from the former alignment of this road.

A comprehensive pedestrian system would be created between the various parts of the central area by this time. The regional administrative centre would be linked to the first activity centre and community college, utilizing the old bridge. Connection with the shopping mall would be by a grade separated crossing of Townline Road.

By the time Townsend reaches broadly 40,000 population, it would have the character of an intensive, lively and diversified downtown. The development of the first multi-level commercial space could occur by this time with considerable expansion of department store space.

In general, the planned development for the town centre will proceed from the northeast corner down to the southwest. Therefore, the centre throughout its life will be developed in a compact and continuous form directly adjacent to the associated housing area, but at the same time, it can be provided with expansion space to accommodate additional uses. Whenever it becomes apparent that this space is needed for further downtown uses, or if Townsend's development was curtailed, the area could be developed for housing to round off the centre.

Various assumptions can be made at this time concerning the staging of growth in the town centre. Actual staging would depend largely upon the development mechanisms chosen and market considerations. However, it is useful to illustrate the effects of an alternative to the previously described phasing of growth.

Alternative First Growth Increment



In this alternative, initial development occurs along the first distributor road, "main street". It would include a supermarket, junior department store, hotel, city hall and government offices. The concentration in this part of the site allows easy connection to the centre developed at the Anderson farm site.

Alternative Second Growth Increment



At a later date, the initial development would be followed by a large comprehensively designed commercial core, including the majority of DSTM and comparison shopping programmed for Townsend. Town centre housing would occur in two areas; the community college and hospital are developed; the city hall and regional administrative centre increase in size. This alternative assumes that the major commercial spine would be developed as a single unit.



A

Appendix Land Use Requirements

Galleria from Civic Square

DESCRIPTION	5,000 Population		20,000 Population		100,000 Population	
	Total Floor-Space (m ²)	Site Area (ha)	Total Floor-Space (m ²)	Site Area (ha)	Total Floor-Space (m ²)	Site Area (ha)
1. Shopping						
Department stores	-	-	7,000	0.5	45,000	2.0
Other shops and services, restaurants, specialty foods, liquor/beer/wine	-	-	12,750	1.0	43,500	2.5
Supermarkets	-	-	3,250	0.5	6,500	0.75
TOTAL (parking)	-	-	23,000	2.0	95,000	5.25
				5.0		7.0
2. Offices and Other Commercial						
Regional administration	2,800	1.0	4,650	2.0	6,500	2.0
Municipal, provincial and federal government	1,000	0.25	10,600	0.25	18,400	0.5
Professional offices and businesses	-	-	11,400	0.25	18,400	0.5
Hotels and related facilities	1,000	0.25	8,000	0.25	14,800	0.5
Cinemas and entertainment	-	-	1,500	0.10	3,000	0.25
TOTAL (parking)	4,800	1.5	36,150	2.85	61,100	3.75
		1.0		6.0		6.5
3. Housing						
@ 75 dwellings/ha with structured parking and community open space		1.0 (75 du)		8.0 (600 du)		40.0 (3,000 du)
4. Community Facilities						
Art gallery, theatre, library, museum	-	-	3,000	0.5	13,000	1.0
Health clinic, hospital	1,000	0.25	3,400	0.5	14,000	1.0
Recreation centre, day care	-	-	1,000	0.25	2,000	0.5
High school	-	-	-	-	13,500	5.5
Churches, social and other facilities	700	0.25	2,000	0.25	5,000	0.5
TOTAL (parking)	1,700	0.5	9,400	1.5	47,500	8.5
	0.25		1.3			3.0
5. Open Space						
Sports fields including parking	-	-	-	-		8.0
Parks and plazas	-	-		2.0		4.0
TOTAL	-	-		2.0		12.0
6. Circulation Infrastructure						
Distributor and access roads	0.75			4.0		9.0
Pedestrian/transit/bicycle routes	0.25			2.0		4.5
TOTAL	1.0			6.0		13.5
TOTAL		5.25		34.65		99.50

Malls

100 - 450 m

Double Mall - Milton Keynes

100 - 200 m

**Single Mall -
Yorkdale, Square 1**

120 - 140 m

75 - 100 m

Commercial City Blocks

300 m

Milton Keynes

140 m

210 m

**Toronto
Columbia**

150 m

**Toronto
Simcoe**

100 m

60 m

Parking

200 m

**Tapiola,
Square 1,
Yorkdale**

1000 Cars

150 m

80 m

60 m

**Tapiola,
Milton Keynes,
Stevenage**

150 - 180 Cars

120 m

**Harlow
Stevenage**

60 m

225 - 250 Cars

B

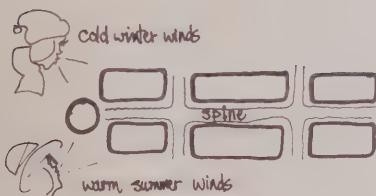
Appendix Microclimate

It is desirable to design the town centre in a manner which maximizes human comfort, minimizes maintenance and heating costs, and allows for economical use of energy.

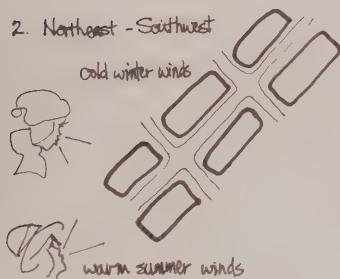
The following climatic characteristics are present in Townsend:

- 100% of the winds blow from the west to north quadrant when temperatures are below 0°F (i.e. when wind chill and human discomfort is the greatest).
- Over 90% of the winds blow from the southwest to northwest quadrant when the temperature is higher than 85°F (i.e. when human discomfort and heat stress is greatest). The southwesterly direction is the greatest single one (35%).

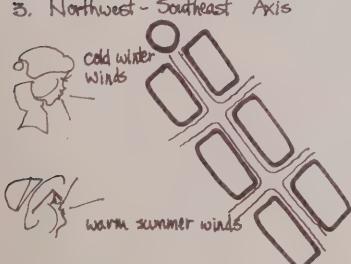
1. East-West Axis



2. Northeast - Southwest



3. Northwest - Southeast Axis



The diagrams illustrate the effects of alternative orientations for the commercial spine.

1. East-West Axis

- Imperfect blocking of cold northwest winds requires tall building massing at northwest end of spine.
- Blocking of warm summer winds causing pockets of stagnant air in the spine, possibly trapping air pollution.

2. Northeast-Southwest Axis

- Effective blocking of cold winter winds from mall but wind chill in side streets.
- Maximum ventilation of mall by warm summer winds thereby minimizing heat stress and possibly dispersing air pollutants.

3. Northwest-Southeast Axis

- Imperfect blocking of cold winter winds and probable wind tunnelling down main mall requires tall building massing at northwest end of spine. A tall wide building provides a barrier for a distance downwind of up to 20 times the height of the building.
- Warm summer winds circulate through side streets, producing a cross-ventilation effect in the spine, and minimize heat stress.

In future detailed studies, wind and snow modelling is recommended to minimize wind tunnel effects and snow removal.

C

Appendix Development Guidelines

Site specific features would form part of the context for development guidelines, e.g. character of the Nanticoke through the town centre, existing farm buildings, retention ponds. Specific guidelines would vary throughout the town centre depending on factors of project location, project size, timing and phasing. Physical guidelines would include specifications for the following elements:

1. Environment

- sun and shade (on open space, on streets, around buildings)
- wind
- noise
- district heating and cooling systems
- air pollution and control (controls on fossil fuel)
- water pollution control
- street and building grid pattern
- buildings to be retained (e.g. existing farm-houses and barns)
- special features (e.g. Nanticoke Creek and retention ponds)
- public views
- mixed use activities

2. Areas of Special Identity

- refers to character of development in predominant activity zones

3. Public Space

- street hierarchy
- major and minor streets for pedestrians and vehicles
- streets for pedestrians through site
- routes and facilities for bicycles
- linkages across arterials and major collectors
- street design and street furniture, including arcades, overhangs
- public transit access, stops and shelters
- open space, including courts and decks
- construction and construction phasing (e.g. minimizing disruption and noise)
- loading and servicing

D

Appendix First Local Centre



The Site

The first local centre is located on a beautiful sloping site overlooking the town centre. Existing buildings on the site, the old Anderson farm, are in need of extensive repair, but are of architectural and historical importance and should be converted to new uses, such as market, cafe and information centre.

The site is also the location for a storm water retention pond which can be developed as an open space amenity with waterfalls, fountain, sitting areas; overlooked by shoppers and residents of the site. The centre is well situated for early facilities, presenting a dramatic entry to the town, and creating a node of activity for the first residents.

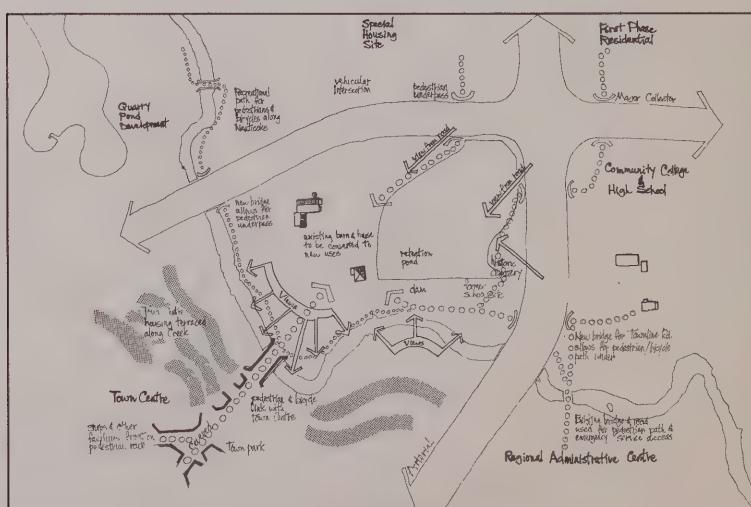
This centre has the potential of becoming an extension of the town centre. It is within easy pedestrian access, via a pedestrian bridge, of the town centre, focusing commercial development on both sides of the Nanticoke Creek. It could eventually change its role from a local centre to a specialty shopping area.



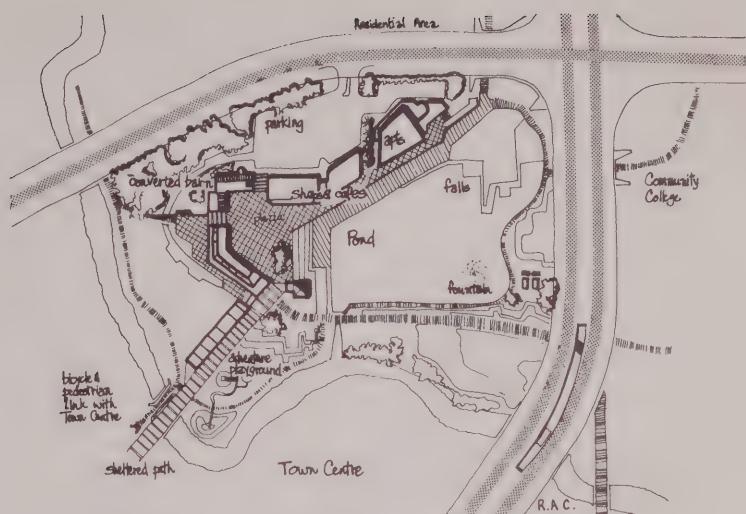
Facilities which could be provided here are shown in the following table. The range of facilities suggested and the intensity of development would create a lively, gay shopping area on the Nanticoke Creek, together with the community college and regional administrative centre.

Components	Area
1. Residential (including parking)	40 units = 0.5 ha
2. Commercial and community:	
general store or super jug store	700 m ²
personal services, bank	650
restaurant	200
liquor/beer/wine	75
professional offices	150
Townsend project offices (on upper levels)	500
marketing centre and meeting hall	500
3. Decked open space and Piazza	0.3
Sub-total	1.0 ha
Parking	0.5
8 spaces/100 m ² GLA retail = 130 spaces	
2 spaces/100 m ² professional offices and community facilities	
facilities = 24 spaces	
TOTAL	1.5 ha

Context



Potential Site Plan



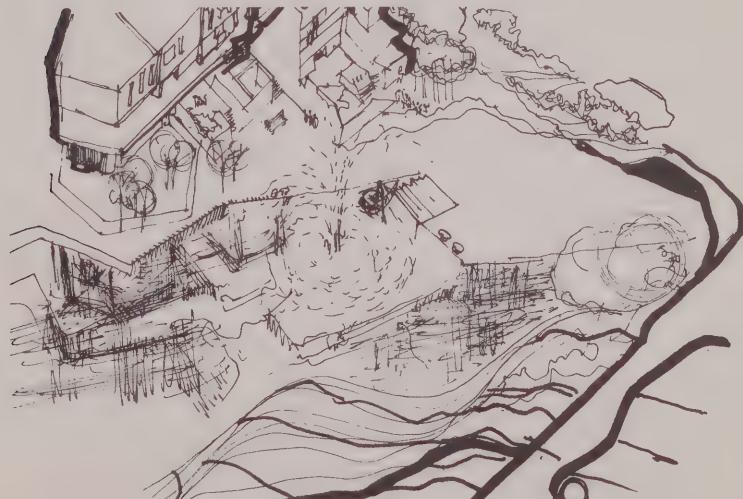
The Anderson property is one of the major historical sites along the Nanticoke Creek. The historical features would be incorporated into the plan for the local centre to recreate the site as an important node.

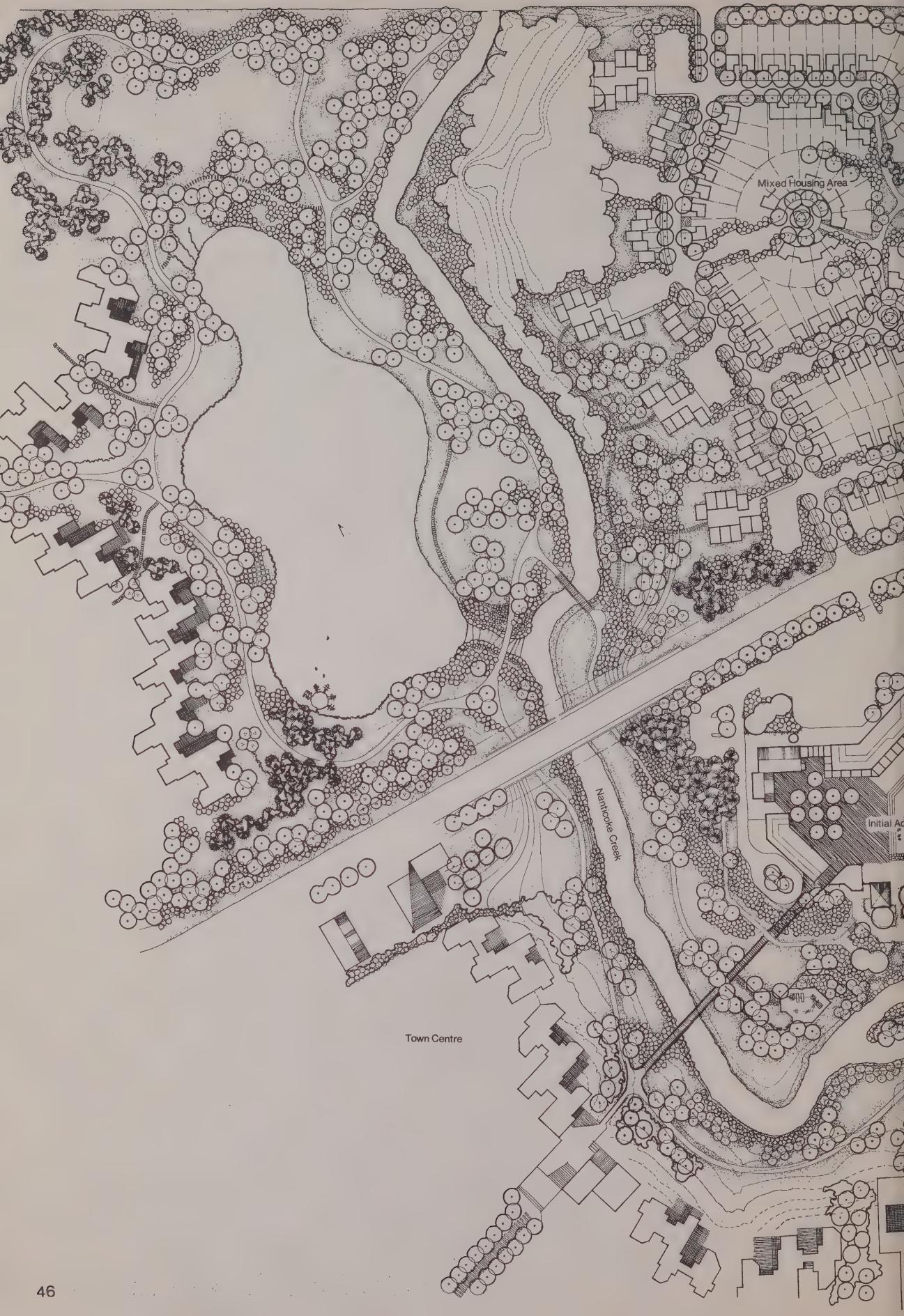
The farmhouse is one of the oldest farmsteads in Towns-end. It was constructed in the late 1840s and is an excellent example of an Ontario cottage farmhouse.

An historic cemetery, dating to the 1840s and requiring reconstruction, is situated on a knoll overlooking the creek adjacent to Townline Road. On the same knoll is the site of the former U.S.S. No. 22 Townsend/Walpole elementary school. No substantial traces of the schoolhouse are evident.

The farm is also the former site of a saw mill and cheese factory. The saw mill was in operation in the 1850s when there was ample forest in the area. The cheese factory served the local farming population in the 1870s.

View from the Road







Initial Development



This report was prepared by Arthur Muscovitch with the help of Richard Drdla and Daniele Davidson of Llewelyn-Davies Weeks Canada Ltd.

Llewelyn-Davies Weeks acknowledges with thanks the considerable help and advice which the following firms contributed to this study:

- Peter Barnard Associates
- Terry Brown Associates
- De Leuw Cather Canada Ltd.
- Ecoplans Ltd.
- Barton Myers Associates

Also, we appreciate the continued help and involvement of the coordinators and staff of the Townsend Community Development Program. Their continued concern for the future success of the centre, in which this report is but a first step, will be necessary to carry this work toward implementation.

